Vol. 135—No. 13

SEPTEMBER 25, 1948

OCT 1 1948

ENGINEERING LIBRARY

Telephony

The Journal of the Telephone Industry

PRE-CONVENTION ISSUE

Published every week on Saturday by TELEPHONY PUBLISHING CORPORATION, 608 So. Dearborn St., Chicago 5, Ill. Subscription $3.00 per year. Entered as second class matter at the Post Office at Chicago, Ill., under the act of March 3, 1879.

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FLASHES AND PLUGS

FUTILE PROTEST. Richard Wykoff, Indiana farmer, didn't like the telephone service.

He tried seven times to make a call, tore the telephone from the wall, hauled it to town and smashed it on the steps of the telephone company office.

"That was the payoff," he moaned. "Nobody even looked out the window."

• • •

BEYOND THE CALL OF DUTY. Mrs. Vernon Pease's chief task as a policewoman in Bloomington, Ill., is to keep the young folks on their good behavior. After seven years on the job she thought she knew all the answers. Then she was roused from sleep one day by an early morning telephone call.

"You're supposed to see after the kids," the woman caller persisted. "That's what you're getting paid for, isn't it?—Well, come over and make my daughter get out of bed."

• • •

REMORSE PAID OFF. Rodney Meldon's cafe safe in Los Angeles, Calif., was robbed of $250 recently. A few hours later his telephone rang. The caller said he was remorseful about taking the money. He said Meldon would find it in locker 3225 at the Union Station.

Meldon hurried to the station and opened the locker. The money was there. All of it.

• • •

LIFE'S LITTLE QUIRKS. A resident of Matewan, W. Va., drove into town one day to get his mail and parked beside tracks where a railroad crew was digging a ditch with a clam shell power shovel.

A switching engine struck the shovel car. The boom swung around and knocked down a utility pole. A network of telephone lines whipped down on top of the parked car.

The motorist opened the door and stuck his head out to see what was going on. The clam shell banged down on top of the car, locking his head inside the bucket.

The bucket didn't close completely, but it took half an hour to get his head out.

• • •

DISCRETION, THE BETTER PART OF VALOR. Telephone company workmen in Omak, Wash., tried to string a line through a 16-inch conduit by tying it to a rabbit.

They put a brown mongrel dog into the pipe to inspire the rabbit. The rabbit did just what he was supposed to do for about 300 yards. Then he turned and chased the dog.

The linemen now are looking for a braver dog.

• • •

HEAVEN ON EARTH. A motorist had just crashed into a telephone pole. Wires, pole, everything came down around his ears. As rescuers untangled him from the wreckage, he reached out feebly, fingered the wires, and murmured, "Thank heaven I lived clean. They've given me a harp."

TELEPHONY

The Journal of the Telephone Industry

September 25, 1948

Contents

THE USITA CONVENTION—AN EXERCISE IN INDUSTRIAL DEMOCRACY 17
By Francis X. Welch

EXHIBITORS AT NATIONAL CONVENTION 20

PROGRAM FOR 51ST ANNUAL CONVENTION OF THE UNITED STATES INDEPENDENT TELEPHONE ASSOCIATION 21

INDEPENDENT PIONEERS TO HOLD ANNUAL MEETING 22

SMALL ALABAMA COMPANY IS "PUT ON ITS FEET"—*By W. F. Corman* 23

CABLE SPLICING—PART V—*By Daniel Seitz* 40

THE PLANT MAN'S NOTEBOOK—*By Ray Blain* 48

PLANT MAN'S QUIZ 54

THE OPERATOR'S CORNER—*By Mayme Workman* 56

COURTS AND COMMISSIONS 58

MOBILE TELEPHONE SERVICE 64

COMING 1948 CONVENTIONS 66

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Published by
TELEPHONY PUBLISHING CORP.

Vol. 135, No. 13. Published every week on Saturday by TELEPHONY PUBLISHING CORPORATION, 608 South Dearborn St., Chicago (5), Ill. 15 cents per copy (except special issues). Subscription $3.00 per year U. S. and Countries in U. S. Spanish Postal Zone; $4 Canada; $5 Other Countries. Entered as second class matter September 4, 1908, at the Post Office at Chicago, Ill.

Telephone Wabash 2435
608 S. Dearborn St., CHICAGO (5), Ill.
U. S. A.

THE USITA CONVENTION

An Exercise In Industrial Democracy

By **FRANCIS X. WELCH**
TELEPHONY's Washington Editor

It is not the guns or armament; or the money they can pay,
It's the close cooperation; that makes them win the day.
It is not the individual; or the army as a whole,
But the everlastin' teamwork, of every bloomin' soul.

—J. Mason Knox. (Printed in The New York Times, Jan. 11, 1909.)

DEMOCRACY, with a small "d," has become a word of many definitions and much distortion in recent years. When the Russian Soviet press speaks of "democracy," for example, it means something quite different from the form of government we have practiced in this country.

To them it means a sort of bludgeoning of the people, by the minority, for the majority. Some other folks, even in our own country, take a rather negative and limited view of democracy. They think of it as a sort of government which permits you to say what you please; but you don't have to listen unless you want to.

Yet, an ideal democracy is one in which everybody participates, as much as he can, to make sure that the constitutional guarantees of freedom and equality are preserved.

During the current political campaign we will hear all parties—even Henry Wallace's Progressive Party—urge full and complete registration at the polls, so that everybody will be able to vote on election day. The theory is that, to the point that every qualified person votes, to that extent the elected government will be truly representative and democratic.

The voter who needlessly stays away from the polls on election day, or who refuses to take any interest in the electoral process, is not necessarily a bad citizen. But he may be a rather careless one. He is taking a chance on the result of a political contest which is bound to affect him, in some way, for better or worse. If the result is for the better, he is getting a "free ride" by accepting benefits which he did not help to accomplish. If the results are for the worse, he must share the blame for contributing to it by his default.

All this is another way of saying that democracy, in order to be successful, requires that those who believe in it should practice it and work at it. Failure to do so invites attack upon the democratic process by those who do not believe in it, and who want to suppress it and all it stands for. The tragedy is that once it *is* suppressed, it is difficult, if not impossible, to restore without revolutionary methods.

Think of the millions of disenfranchised people behind the Iron Curtain today who have lost their right—perhaps forever—to participate in democracy, as we know it! How grateful they would be if they had the chance, which every qualified voter in the United States has, today, to speak and vote freely for their choice of government.

• • •

Everything said here about democracy in government, applies with equal force to democracy in all the component fields of human enterprise which go to make up our society. In a truly democratic nation, the democratic process cannot be limited to purely political functions of government. By its very nature, it tends to permeate all forms of business and social endeavor.

The democratic habit is catching—as it should be. Professional groups, agricultural groups, educational groups, lodges and fraternities, labor unions, churches and civic organizations, have all come to be patterned on some form of active participation by individual members. Some have been more successful than others. Those which have been least successful are the ones which find themselves eventually faced with threat of failure.

For instance, is it not true that those particular labor unions, which have come in for criticism, are those in which the rank-and-file participation has been suppressed—and in which the leadership has been surrendered to some ruling clique which comes to abuse power through arbitrary action?

What sort of a fraternal lodge is that in which the active interest of individual members has ebbed to the point of non-attendance? How long will a given church last whose congregation religiously stays away from services or participation in the work of the parish?

Even prisoners in a penitentiary find that their period of incarceration passes more smoothly and comfortably when they join and cooperate in friendly councils for self-government under the rules of the institution.

• • •

This writer has refrained from specifically mentioning the case of industrial democracy up to this point, because he wanted to emphasize the proposition by reference to every other segment of the social community. It necessarily follows that what is true of a professional or farm group, of a club or labor union, is true of industry and business generally. Under our competitive system of free private enterprise, the need for democratic participation in all matters calling for industrial cooperation, probably surpasses the need for democratic action elsewhere.

The American Plan—for competitive industrial enterprise—requires that the

individual company business units must protect themselves from the dangers of drifting towards industrial monopoly. And that is just where a collapse of democratic cooperation in any given industry would lead such industry. The Sherman Act, and the Clayton Act, and other so-called antitrust statutes, expressly forbid, under heavy penalty, cooperative activity which is not open and democratic, and which, therefore, becomes a monopolistic conspiracy at the expense of the public and fair competition.

It is for that reason that trade and industrial associations have become organized at the national and state levels along *democratic* lines. Their meetings are held openly. Such meetings provide a proper and legitimate forum for individual businessmen to sit in the same room and discuss mutual problems and arrive at fair conclusions.

In no other nation in the world today is industrial democracy practiced so thoroughly as in the United States. And it is no accident or coincidence that in no other nation has industrial enterprise been so successful in its operation.

• • •

The United States Independent Telephone Association is a true and proper example of such industrial democracy. It was organized freely and spontaneously before the turn of the century when the danger of a corporate monopoly threatened to engulf the entire telephone industry and give rise to inevitable demands for socialization by the government. Such was the experience of the telephone industry in so many countries abroad. But it was the USITA, gathering strength from the vigorous participation of a legion of Independent telephone pioneers, which stemmed the sweep toward monopoly, and brought forth a stable and truly democratic Independent telephone industry in the United States.

It is probably safe to say that this same Independent telephone industry stands, today, as a bulwark against the arguments and sophistries of those who would like to see the same stagnating strait jacket of socialization imposed on the telephone industry in America as has been the fate of telephony abroad. Small in numbers but strong in unity and active interest, the pioneers of a generation ago have handed down this vital heritage to the Independent telephone people of the present day.

The current problems are naturally different than they were a generation ago. The danger of monopolistic absorption is past. But today's problems are just as difficult. The underlying basis for success is still the need for democratic participation—a necessary prelude to unity of action.

Today's problems are multitudinous. Continued shortages of manpower and materials, increasing operating costs, difficulties of public relations and labor relations, the complexities of necessary rate increase procedures — all these combined with such newer technical puzzles as mobile telephony, rural telephony and other dynamic changes in the art of operation, make the work of the industry's national association a serious and weighty responsibility indeed. It is a burden so heavy that nothing less than a full representative turnout of the rank-and-file can assure the effectiveness of the results obtained.

The USITA program committee has done its part. The good things for the convention have long been prepared in the proper style and order for a successful exercise in industrial democracy for the Independent telephone industry. The association's officials have made the necessary collateral arrangements. Member manufacturers and suppliers of the USITA already have undertaken painstaking and elaborate preparations for displays and exhibits which will interest and profit all who see them. The stage is set at the Stevens Hotel in Chicago beginning Monday, Oct. 11.

All that remains is for the individual members of the industry to do their part. Their very attendance at this meeting constitutes a vote of confidence in the "democracy of telephony." Their presence at the various sessions and meetings constitutes the best and only evidence of a desire to participate in the important work of the industry's association.

In an effort to extend the truly democratic spirit of this 1948 convention, as far as possible, the USITA has announced that attendance will not even be limited to membership in the association. Executive Vice President Bailey has stressed the special interest of the association in having the smaller companies represented. Any operating telephone company is therefore entitled to register and participate in the convention program regardless of membership affiliation.

It would be overconfidence on the part of any Independent telephone man, who can possibly afford to make the effort to attend the Chicago meeting, not to do so. Merely because attendance figures have continued upward in recent years is no guarantee that all hands are on deck, who should be on deck. It must be borne in mind that the industry itself has been growing like every other industry in this country, by leaps and bounds.

As long as there is one single member of the industrial crew away from his post, without sufficient excuse, during this important meeting, this impressive exercise in industrial democracy will, to that extent, be rendered less effective. So don't be a "deadhead" on the industry's ship of state. Its policies and procedures are surely important enough to deserve the consideration of each and every member of the industry, not irrevocably tied down elsewhere than Chicago during the second week of October.

• • •

What has been said about the importance of the USITA meeting on the national level can be said again and again for state association activity at the state level. The work of these cooperative groups is not at all confined to a single annual meeting of a few days. Through democratically elected officials and committees the work goes on continuously all year around. The annual meeting is mainly the marshalling area, where the democratic function bursts into full view. At the annual meeting we witness something

BANQUET COMMITTEE PLANS BEST-EVER PROGRAM

WHILE the entertainment program for the banquet of the annual convention of the United States Independent Telephone Association, to be held the evening of Oct. 12, had not been completed as this issue went to press, the USITA Banquet Committee announced that plans for the banquet and entertainment are progressing rapidly and the entire program is expected to excel those of previous years.

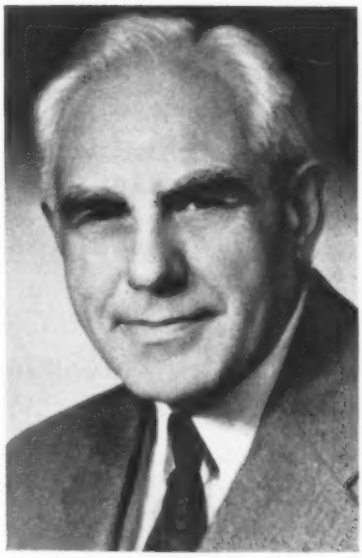
Tickets for the banquet will be available at the time of registration for the USITA convention and they may be purchased at a table which will be located near the registration desk.

Members of the USITA Banquet Committee are J. H. Kellogg, chairman; R. W. Smith, treasurer; C. H. Knapp; R. C. Reno, all of Chicago; H. C. Ryon, Galion, Ohio; Chester Ruth, R. W. Siemund, and L. H. Warner, all of Chicago.

★

FEATURED SPEAKERS. Those attending the annual convention of the United States Independent Telephone Association will hear five outstanding leaders in the public utility regulation and general economic fields. They are H. LESTER HOOKER, member of the Virginia State Corporation Commission (above left); Dr. KENNETH McFARLAND, nationally known consultant on personnel training and salesmanship (above center); HARRY M. MILLER, chairman, Ohio Public Utilities Commission (above right); HERBERT J. SCHROLL, communcations advisor to the Office of Civil Defense Planning (left), and EARL O. SHREVE, president, United States Chamber of Commerce (right).

★



similar to the "changing of the guard."

The committees report on the fruits of their labors. The principal speakers analyze and report on the problems ahead. The election process gives the association a new democratic lease of life for another 12 months.

Another most important feature is the personal contact which can only be made possible by individual attendance. In this way, through informal meetings, conversations, and social sessions, strangers become friends and friends become brothers in a great movement to carry on Independent telephony to bigger and better success.

If all this comes to pass through successful 1948 meetings and conversations, the industry will be more than equal to the gigantic task of the future. It will not fail to deserve the heritage of the industry's pioneers of the past.

And what is the gigantic task ahead? To attempt any detailed report or analysis would require an article as long as the report on the convention itself. But certain general observations are in order:

(1) The association must continue to render service it is now giving and each of those services must grow because the industry's over-all program is growing.

(2) Public relations work must be expanded.

(3) Construction bottlenecks must be licked.

(4) The industry's legislative policy must be reviewed, confirmed, and reinforced.

(5) The problem of rate increases, with particular reference to the requirements of smaller companies, must be continuously analyzed and recommendations passed on to those in need of advice.

(6) Ways and means to enlist and utilize the interest and aid of individual members must be decided upon.

(7) Most important of all, the sinews of strength must be provided through continued and increased membership at both the national and state levels.

The industry is entitled to 100 per cent membership. To this end, each member might properly consider himself a Committee of One to urge every other telephone man, within range of his acquaintance or association, to join at once and to enlarge upon such formal membership by active participation in association work to get the full benefit of association functions.

To sum up, the spirit of the industry's association does not consist of a symbol or a certificate, or a paid up membership card. It can only be enjoyed to the fullest in the realization of the individual that he personally has contributed all he could, in time and attention as well as membership fees. It has rightly been said that such a cooperative association is like a bank account—you get out of it what you put into it, plus the interest that you have earned.

EXHIBITORS AT NATIONAL CONVENTION

Modern and up-to-date telephone equipment and supplies will be on display at the coming USITA convention. Independent manufacturers and suppliers can and do render vital assistance and advice to operating companies in solving their problems. Be sure and visit them in their display rooms, listed below. (The list was furnished by the USITA Manufacturers Exhibit Committee.)

ADDRESSOGRAPH-MULTIGRAPH CORP.	549
AMERICAN CROSS ARM CO.	556
AUTOMATIC ELECTRIC CO.	504—505—507—509
W. M. BASHLIN CO.	516
L. M. BERRY & CO.	556-A
BUCKEYE TELEPHONE & SUPPLY CO.	532-A
CABLE SPINNING EQUIPMENT CO.	553
COOK ELECTRIC CO.	539-A
COPPERWELD STEEL CO.	542-A
ELECTRIC STORAGE BATTERY CO.	528-A
EVERSTICK ANCHOR CO.	539
FEDERAL TELEPHONE & RADIO CORP.	521—522—523
GOULD STORAGE BATTERY CO.	537-A
GUSTAV HIRSCH ORGANIZATION	557-A
HOLTZER CABOT CO.	524-A
HUBBARD & CO.	521-A
INDEPENDENT TELEPHONE PIONEER ASSOCIATION	535-A—536-A
KELLOGG SWITCHBOARD & SUPPLY CO.	500—501—501-A—502
JAMES R. KEARNEY CORP.	547
LEICH SALES CORP.	512—513—557
LENZ ELECTRIC MFG. CO.	520
LOOMIS ADVERTISING CO.	561
LORAIN PRODUCTS CORP.	515-A
McCABE-POWERS AUTO BODY CO.	548-A
MOTOROLA	530-A
NATIONAL CARBON CO.	553-A
NATIONAL TELEPHONE SUPPLY CO.	550-A
NORTH ELECTRIC MFG. CO.	517-A—519-A—520-A
PAGE & HILL CO.	533
RAYTHEON MFG. CO.	551-A
RELIABLE ELECTRIC CO.	512-A—513-A
JOHN A. ROEBLING'S SONS CO.	560
RUNZEL CORD & WIRE CO.	526-A
THE SCHAUER MACHINE CO.	537
SHERRON METALLIC CORP.	561-A
STROMBERG-CARLSON CO.	505-A—507-A—509-A
SUTTLE EQUIPMENT CO.	529
TELEPHONE ENGINEER PUBLISHING CORP.	504-A
TELEPHONE REPAIR & SUPPLY CO.	516
TELEPHONY PUBLISHING CORP.	533-A—534-A
WHITNEY BLAKE CO.	534
WILCOX ELECTRIC CO., INC.	545

One Fire—Coming Up!

Firemen, answering a telephone alarm in Philadelphia one day, rushed to a northeast intersection of the city.

They found no fire.

Then three railroad men walked up.

"Don't get impatient, fellows," one of the railroaders said. "Your fire will be along in a minute."

The firemen waited. A Pennsylvania railroad locomotive came along, pushing a blazing boxcar onto a siding. The firemen went to work.

IT WAS A GOOD THOUGHT, BUT . . .

Three-year-old Jackie constantly played with the telephone. One day his father decided to scare him by calling and pretending it was the police station. Jackie, as usual, answered the telephone.

"This is the police station," came the voice at the other end.

Recognizing his voice, Jackie quickly replied, "What you doing over there, Daddy?"

Program for 51st Annual Convention

United States Independent Telephone Association

STEVENS HOTEL, CHICAGO

MONDAY, OCTOBER 11

9 A.M.—REGISTRATION—North Assembly Room (Third Floor).

10 A.M.—PLANT CONFERENCE—North Ballroom. G. W. MILLER, *Presiding;* PREVENTIVE MAINTENANCE, DANIEL S. SEITZ; THE TRANSISTOR—A NEW SEMI-CONDUCTOR AMPLIFIER, DR. J. A. BECKER; CARRIER SYSTEMS, HAROLD R. HUNKINS; RADIO TELEPHONY, C. H. MCLEAN.
COMMERCIAL CONFERENCE—South Ballroom. R. B. STILL, *Presiding:* CHANGES IN SALES TECHNIQUE, D. A. KAFKA; EMPLOYE AND EMPLOYER RELATIONS, RAY DALTON; BUSINESS OFFICE RECORDS, H. F. MORAN.

2 P.M.—TRAFFIC CONFERENCE—North Ballroom. C. C. DONLEY, *Presiding*; WHAT TRAFFIC MANAGEMENT PRODUCES, STUART H. KELLY; THE CHIEF OPERATOR IS THE HEART OF OUR BUSINESS — AND WHY, MARY G. HADLOW; HOW TRAFFIC CAN ADD TO "THE BOTTOM LINE," GEORGE ROSE; TRAFFIC DEPARTMENT'S PART IN LARGE EXCHANGE CONVERSIONS, W. A. KERN; TRAFFIC HANDLING STANDARDS (A Round-Table Discussion), JOHN F. REDING, *Moderator.*

ACCOUNTING CONFERENCE—South Ballroom. H. C. WHITE, *Presiding*; WHAT MANAGEMENT EXPECTS FROM THE ACCOUNTING DEPARTMENT, R. A. PHILLIPS; USE OF MODERN MACHINES IN ACCOUNTING, O. N. WESTRUP; PREPARATION OF ACCOUNTING EXHIBITS FOR REFINANCING AND RATE CASES, E. J. WARD; PANEL DISCUSSION.

TUESDAY, OCTOBER 12

REGISTRATION—Morning, Second Floor Writing Room: Afternoon, Third Floor Corridor.

10 A.M.—GENERAL SESSION—Grand Ballroom. INVOCATION by DR. A. O. HJERPE, Pastor, Second Presbyterian Church, Evanston, Ill.; THE RESPONSIBILITY OF MANAGEMENT, OSCAR BURTON, *President;* REPORT FOR THE SECRETARY'S OFFICE, GEORGE C. RICHERT; A REPORT ON THE ASSOCIATION'S EXCHEQUER, CARL D. BROREIN, *Treasurer*; SERVICE AND FINANCIAL PROBLEMS CONFRONTING THE INDUSTRY, HON. H. LESTER HOOKER, *State Corporation Commission of Virginia.*

2 P.M.—GENERAL SESSION—North Ballroom. VICE PRESIDENT F. E. BOHN, *Presiding;* YOUR ASSOCIATION IN ACTION, CLYDE S. BAILEY, *Executive Vice President;* DEMANDS FOR SERVICE AND FOR REGULATORY SHORT CUTS, HON. HARRY M. MILLER, *Chairman, Public Utilities Commission of Ohio;* WHAT IS AHEAD ON THE LABOR RELATIONS FRONT, J. H. AGEE, *Chairman, Employment Relations Committee;* THE PRESERVATION OF PRIVATE ENTERPRISE, EARL O. SHREVE, *President, United States Chamber of Commerce.*

3:30 P.M.—ANNUAL BUSINESS MEETING OF THE INDEPENDENT PIONEER TELEPHONE ASSOCIATION —South Ballroom.

7 P.M.—ANNUAL ASSOCIATION BANQUET—Grand Ballroom.

WEDNESDAY, OCTOBER 13

9 A.M.—Registration—Third Floor Corridor.

9:30 A.M.—GENERAL SESSION—North Ballroom, VICE PRESIDENT H. V. BOZELL, *presiding;* YOU ARE MOVING CLOSER TO MOBILE RADIO-TELEPHONE SERVICE, F. E. NORRIS, *Chairman, Radio Service Committee;* DEMONSTRATION OF MOBILE RADIO-TELEPHONE SERVICE, *Courtesy of Illinois Bell Telephone Co.;* THE ROLE OF COMMUNICATIONS IN THE CIVIL DEFENSE PROGRAM, HERBERT J. SCHROLL, *Communications Advisor, Civil Defense Planning;* THE "U" IN BUSINESS, DR. KENNETH MCFARLAND, *Topeka, Kan.;* ELECTION OF DIRECTORS.

INDEPENDENT PIONEERS

To Hold Annual Meeting

PLANS for the annual meeting of the Independent Telephone Pioneer Association, to be held 3:30 p.m., Oct. 12, at the Stevens Hotel, Chicago, Ill., have been completed, according to Mayme Workman, executive secretary. The meeting will be held in conjunction with the convention of the United States Independent Telephone Association.

Although the Pioneer meeting will begin just prior to the closing of the Tuesday afternoon session of the USITA convention, all Independent Pioneers are urged to attend their annual meeting by the officers and directors of the Pioneer association.

There will be a short business meeting with reports of officers and committees and the election of directors. Following the business meeting an entertainment program will be presented, featuring the 35-voice Male Chorus of the Illinois Bell Telephone Co. All Pioneers should make every effort to hear this chorus as it has a wide following in Chicago and is in great demand for program work.

The Male Chorus is a part of the Bell Mixed Chorus which numbers around 150 men and women employes of the Illinois Bell Telephone Co. The Mixed Chorus will present its 28th consecutive spring concert next year in Orchestra Hall, Chicago. It presents approximately 10 concerts each year for various civic organizations and veterans' hospitals and is featured on radio broadcasts.

Robert MacDonald is the accompanist for the Mixed Chorus. Mr. MacDonald is one of the finest concert pianists and accompanists in Chicago.

Robert Childe is director of the Mixed Chorus and also the Male Chorus which will sing at the Pioneer meeting. He directs several choruses in Chicago, composes and arranges a large amount of choral work and is an accomplished pianist. He is affiliated with several radio networks.

In addition to several numbers by the Male Chorus, Independent Pioneers will have the privilege of hearing a group of duets sung by Miss Meg Witherspoon and Elmer Carlquist, accompanied by Ernest Tamminga, a member of the Male Chorus.

Miss Witherspoon and Mr. Carlquist won first prize on the "Stars of Tomorrow" radio show, sponsored by sta-

(Please turn to page 81)

(Above) MISS MEG WITHERSPOON and ELMER CARLQUIST who will sing a group of duets at the Pioneer meeting. (Below) Illinois Bell Male Chorus which also will entertain the Pioneers.

SMALL ALABAMA COMPANY

Is "Put on Its Feet"

By W. F. CORMAN
Manager
Southland Telephone Co.
Atmore, Ala.

IN THESE postwar years, there is practically no telephone company, large or small, that has escaped the problems of the "unprecedented demand for telephone service" on the part of the public. Even the larger, well-entrenched companies which had their business on a high plane of service have had to meet many problems in these last three years, the existence of which they had never suspected.

What then of the smaller company, with its 35-year old switchboard, long-necked wall magneto telephones, taped-up cable, rusty joints and tottering pole lines? For this big new demand has taken not only the line of more service, but also of better service, and it has made no difference whether your chamber of commerce boasted 100,000 population or 1,000, the public still felt that it was entitled, as soon as the war was over, to both more and better service.

It was and is entitled to it. It is not the fact that they are demanding it that should worry us, because that is only normal, natural and right in our free enterprise society. The time we should begin to worry is when the American public stops demanding more and better things and services.

The problem then, is not so much to cuss and discuss this demand (although an intelligent interpretation of it is certainly worth-while) as it is to fulfill the demand insofar as it is economically possible.

The givers of good advice, the preachers who do not practice and the pure theoritician, have all expounded on this subject at great length, and while their advice, preachings and theories have in many cases been excellent, there still remains that doubt in the mind of the man who must spend the actual dollars, climb the actual poles and face the actual (unpredictable) future. An old-time newspaper man once said that one picture is better than a thousand words. On this theory, one actual example of what one company has done in its effort to meet the problem it has had to correct, the mistakes it has made and to achieve the success that has crowned its efforts, should be of some benefit to others with much the same problem to face. On this theory, and with such a view of helpfulness in mind, this article has been prepared.

W. F. CORMAN, manager, Southland Telephone Co., shown in his office in new telephone building.

Atmore, Ala., according to the census of 1940, had a population of 3,200. The town is located on the Alabama-Florida state line, 50 miles north of Pensacola and 55 miles northeast of Mobile. It is in the center of an excellent agricultural district, and it was from lumbering and agriculture that it grew from a cross-roads center to its present size. The town draws from a trade territory variously estimated at from 18,000 to 27,000 population, and is an excellent trade town. The area boasts a good year-around temperature with no extremes of high or low. There is abundant rainfall. The town is primarily peopled and governed by the middle class —there are no millionaires and there are few if any destitutes. Such is the setting for this story.

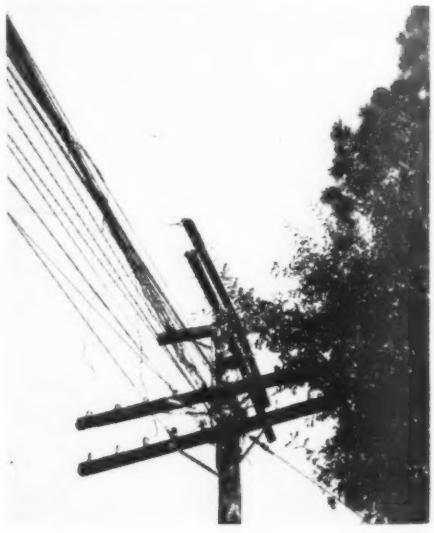
About 1938, the past owner of the Atmore Telephone Co. died, leaving the property to his wife, who managed the business until Jan. 1, 1943, when she sold it to the present owners, Minor Corman and his son, the writer. The property had slowly depreciated to a point at which it was hardly capable of furnishing service. Only a very few telephones had been installed in several years, and the town had definitely grown away from the telephone company (the present population is conservatively estimated at from 5,000 to 6,000).

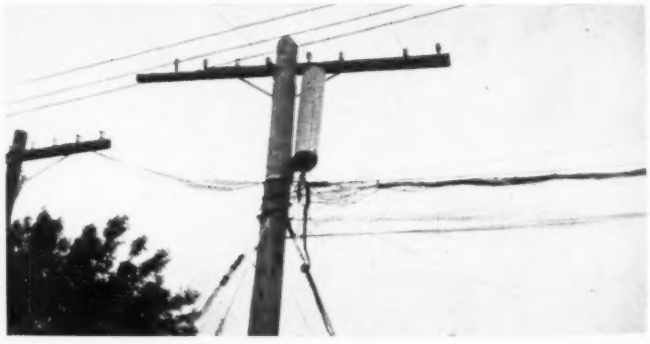
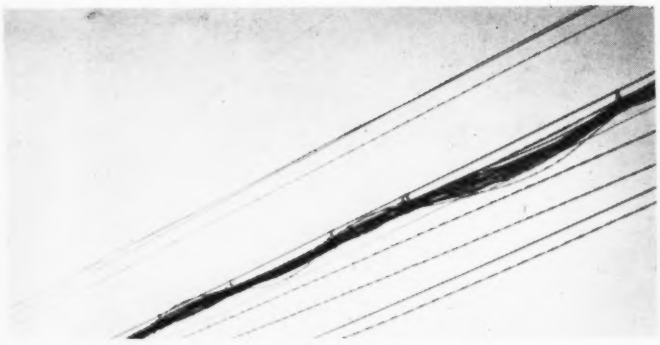
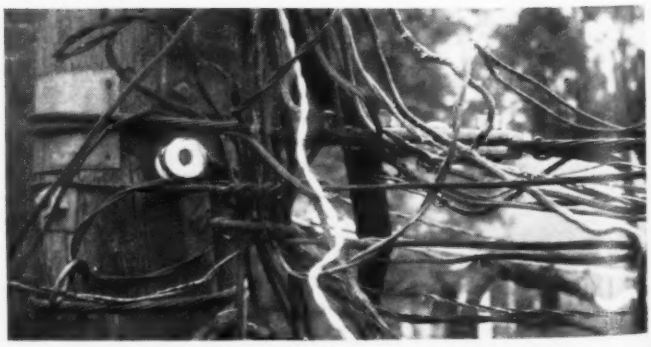
Some of the accompanying illustrations were taken in early 1943, showing the typical condition of the outside plant. The central office building was an 18 ft. x 25 ft. wooden structure covered with imitation-brick tar paper and a tin roof. The two-position magneto switchboard was 35 to 40 years old. The telephones were the usual conglomeration of wall magnetos, interspersed with a few desk sets and a rare handset. There were two stretches of cable, neither very old, but both in bad condition due to taped-up joints, damp spots, opens, crosses and leaky terminals (see pictures on page 24).

The majority of the distribution lines were a profusion and confusion of drop wire, rats-nest terminals and cockeyed cross-arms. There were only four lines running past the city limits and all of these were subscriber-owned.

In the system there were 310 telephones. The rates, compared to other small Alabama systems at that time, were not bad: $3.75 individual business and $2.30 individual residence.

We therefore, had an asset, and a liability, and we also had a theory. The asset was the town. It was good, the probabilities were that it was going to grow and there was an underlying demand built up from the past. The liability was the property—it would cost more to tear it down than it was



The old outside plant of the Southland Telephone Co. before rehabilitation. FIRST ROW, left to right: Span of old cable; a terminal pole; mess of drop wire, pig-tail joints, taped cable stub, etc.; SECOND ROW: Jumble of drop wire around a loose terminal; a replacement job that was never finished; termination of a drop wire lead. THIRD ROW: Cable with friction tape joints; an old pole with a messy terminal, taped splice and drop wire in rings. FOURTH ROW: Drop wire in cable rings was used all over town; jumpers from a cable terminal.

worth as salvage. And the theory was this: The better service a telephone company provides, the more the public will use that service, the better the company's relations, both public and employe, will be and the more money it will make in the long run.

The problem was to make the most of the asset, get rid of the liability and prove the theory. Five and one-half years later, all three parts of the problem are well on the way to being solved. The asset has produced a number of stations and gross revenues that are well over doubled — almost tripled. The liability has been 90 per cent replaced, including central office building and equipment, telephones and distribution lines. Partial proof of the theory lies in the following facts:

(1) Earnings have been adequate enough to invite new capital.

(2) Net toll revenue, per station, has almost doubled.

(3) The Alabama Public Service Commission is cordial, because it has not had a complaint from this area in five years.

(4) The public is as happy over the situation and as proud of the improvements as the company itself is — it brags about it to outsiders and even sometimes make excuses for the company when things go wrong.

(5) Hours of work have steadily been reduced from, in some cases, as high as 72 per week, to an average of about 42 or 43, in spite of which, take-home pay has constantly increased.

MINOR CORMAN, president, Southland Telephone Co., 40-year independent telephone man.

Final proof of the theory will lie with the ultimate survival of the company and its relative prosperity, operating through a depression and over a long period of time. Results to date, even considering the general prosperity of the times are, to say the least, encouraging.

That is the opening situation and the results to date. What has happened in those five and one-half years and how was it done?

The first requirement was a plan of attack. Considering the problem and the theory (which the company does not claim to have originated in any sense of the word) the plan almost wrote itself, and it was this:

Chronological Plan of Work

(1) By temporary repair and maintenance and by efficient and fast trouble shooting, to provide the best possible service with the existing equipment to the existing telephones.

(2) As fast as possible, to replace and rebuild on a permanent basis, the entire outside plant, capable of handling either dial or common battery voltages.

(3) To build and install a new central office building and central office equipment.

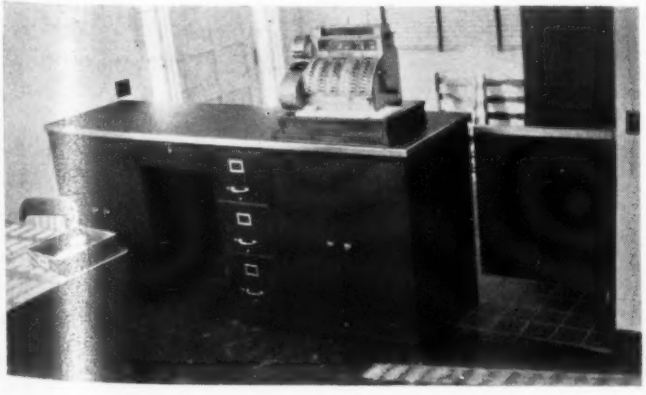
(4) To replace all telephones with the latest and most efficient models.

(5) Simultaneously with the above four steps, to provide additional service and add new telephones as fast as possible, but with secondary emphasis on this step.

(6) To expand the scope and area of service until the following goal was at least closely approached, if not completely reached: *The kind of service he wants, for everyone who wants it, when he wants it.*

There is nothing particularly difficult about arriving at the above steps— they are usually what is required any-

Old telephone building (left) at Atmore was replaced by the new and modern building shown at right.



LEFT: View in new Atmore building taken from commercial office showing modern counter, lobby (in background) and public booths (upper right). RIGHT: JULIA BRYARS and MYRTLE MAYE WILLIAMS in commercial office.

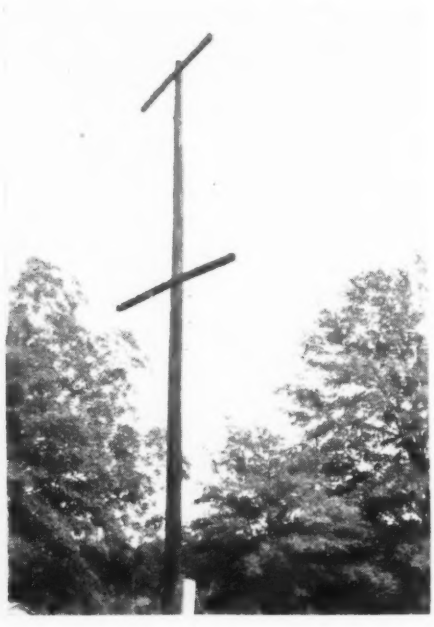
where. The reason for setting them forth is to point to the sequence—the company considered that particular order to be little short of mandatory. The position of Step 2 is especially important—Steps 3 and 4 should not be commenced until Step 2 has been satisfactorily completed, otherwise there will be a lot of lost time, lost money, lost public confidence, and other headaches. An old outside plant that is not in good condition will provide fair service over a magneto system—it will provide practically no service over common battery or dial.

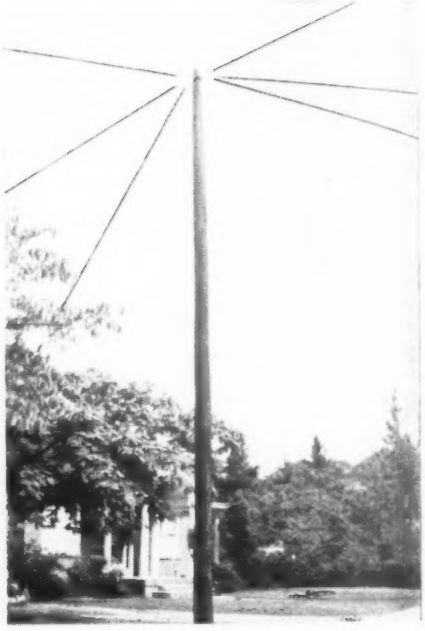
At the present time (July, 1948), the Southland Telephone Co., which is the incorporated name of the Atmore Telephone Co. partnership, has completed the first five steps—the sixth has been started. Let us now go back and follow those steps through one at a time.

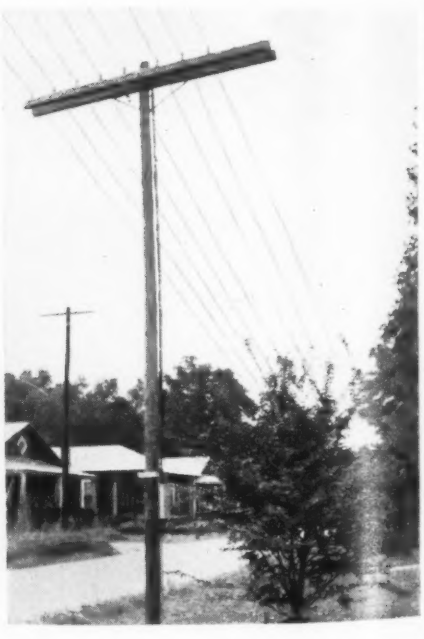
Step 1. To Provide Good Service with Existing Equipment. The only advantage to this step is that it is something that can be started immediately and that will show at least some improvement. It is costly and the costs are of a nature that do no permanent good, other than to the customer relations. However, the second step usually takes so long that if some effort is not made in the meantime there may well

(Please turn to page 35)

The new Atmore plant. RIGHT: Long span construction—400 ft. spans with HTL-85 wire. CENTER, left to right: An open wire lead showing the guying used for dead-end; end of buried cable and beginning of an open wire route on joint construction with power lines; city distribution from buried cable, with which comparatively short drops are possible with plenty of terminals. BOTTOM ROW: City distribution from buried cable where open wire is used in case the telephone is more than one span from cable terminal, which is located where man can work standing on ground; open wire leads from the end of a cable; No. 14 open wire distribution, with proper guying, is used in less thickly settled sections.







develop a public hostility that will work to the company's disadvantage in the future.

How much to spend, and to what extent lines, telephones and central office equipment should be repaired and reworked are matters to be decided in each individual case. The first particular job that the Southland undertook was to rework and repair the old switchboard. Every call goes through the board, and if it is bad, every call will be bad. Effort spent here shows more results than at any other point. Telephones were repaired, and in many cases, the oldest and worst were sent off to be rebuilt. Noisy and bad lines were reworked with as little time and effort as possible to put them into at least fair working condition.

And probably most important of all, fast trouble relief was made the basic policy. If there was any method possible, service was restored the day it was reported, and a strong effort was made to let no trouble run longer than 24 hours. This goal was not, of course, fully realized, and in isolated cases sometimes 72 hours passed before all the trouble from a lightning storm could be cleared. But the effort was made, and it was successful insofar as it made the two and three-day cases the exception rather than the rule.

This step ties in closely with Step 2 in many ways, and it should be continued all through the remaining history of the company. No telephone equipment has been developed yet that is 100 per cent trouble free, but most trouble can be cleared quickly, and this policy should be a permanent goal of the company.

LEFT: E. E. MacINTOSH making half-tap of the cable. RIGHT: Splicing paper wrapped cable to textile cable in the new Atmore central office cable vault.

Step 2. To Rebuild the Outside Plant. This actually is the first step toward the renovation and expansion of any run-down plant. By the time this step was underway, some intelligent guesses had been made as to how large the company was expected to grow, so that properly sized cables and routes could be planned. This "intelligent guess" was difficult for there are so many factors involved.

Is there an already existing demand inherent in the community?

Will the community grow in the future, and how much, and in which directions?

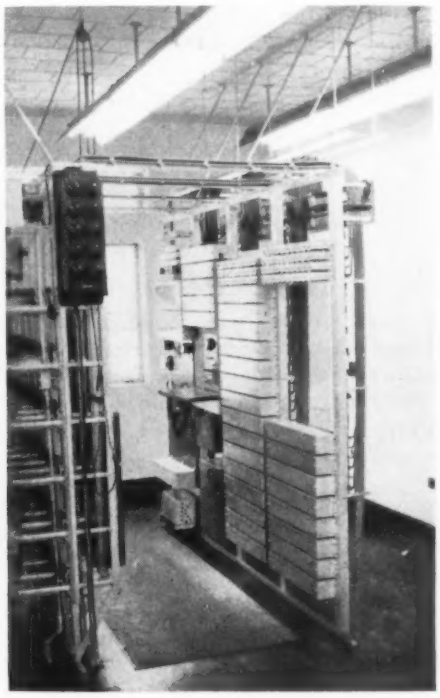
Does it have a boom condition, or a steady growth, or a static population —and is this condition likely to change? And so on. . . .

But the guess must be made and the step taken; you can't wait 10 years to find out whether you guessed right or not; you must do what you think best. Here are some suggestions that may be helpful.

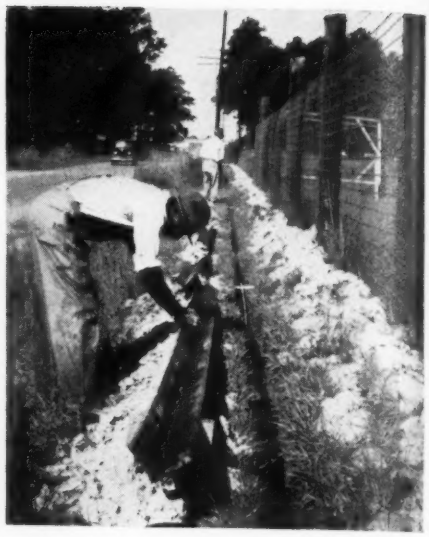
Let it be known by every means possible (advertising, speeches before city council and civic clubs, coffee-sessions in the drug store or talks on the corner) that you are going to provide good service and are going to try to serve people as fast as possible. Orders will come in which will help you a little on your guess.

Talk to nearby telephone men who have done what you are planning to do and find out what their telephone-to-population ratio did when they started expanding and improving their service. Count the houses in your town and use that as a basis. Talk to your Bell connecting company relations manager. Survey your rural territory, map it and mark the houses.

When this program is begun, figure



ABOVE: New switchboard installed at Atmore. Operators are AUDREY GARRETT, RUTH MARTIN and CHRISTINE GATES. RIGHT: View of main distributing frame, relay rack and power equipment.



Installing cable at Atmore. TOP, left to right: Hand tools used for digging cable trench; home-made device for melting asphalt compound to be poured over cable; laying strips of tar paper in wooden troughs preparatory to pouring asphalt over cable. CENTER, left to right: Asphalt being poured over cable after it was laid in troughs; close-up of cable after asphalt cooled; cable in the ditch, ready to be covered. RIGHT: Laying the cable into ditch after asphalt cooled. Note that tar paper is left on the cable.

it out carefully. Plan each step so that what you do will be good, permanent construction, and where possible, capable of expansion if necessary. In its construction during the war the Southland had, of necessity, to use some salvaged wire. To use secondhand material when it was not necessary proved to be false economy. The labor costs are higher, the service provided is poorer and the life is shorter. It is more expensive in the end than using new material and putting it up right. Try not to make any temporary installations—they will probably turn out to be permanent because you will not have the time to go back and change them, and they will probably give trouble. Use standard construction methods, don't skimp or short cut, and unless you have the time and money to spend, don't improvise or experiment—that can come later when the big problem is out of the way.

The Southland's principal job was to get rid of the masses of drop wire that were strung around town as the distribution system. After some thought, buried cable was decided upon as the most practical method. However, whether to use aerial, buried or underground cable or open wire leads depends entirely on the local situation. Here are some considerations: City requirements, type of soil, future growth, comparative costs against comparative life, amounts of paving (buried cable later paved over is bad). It is usually cheaper to install cable than it is to string more than two cross arms (10 pairs) of open wire. Generally cable over 51-pair should not be buried. Ordinarily, underground lasts the longest, buried next, and aerial the shortest length of time.

In connection with its cable, the Southland found that abundant terminals, as many as five to a block, are time and money saving devices—that long runs of drop wire were, in the end, the most expensive kind of construction that it could do.

The Southland buried its cable by hand, but if a small ditching machine could have been purchased, it would in all probability have saved money. Ditches were dug 18 ins. to 24 ins. deep. Asphalt compound was used because jute wrapped cable was unobtainable and it was felt that the cable should be protected against the soil acids (see pictures on page 36).

At this point, one of the Southland's mistakes should be pointed out. In practically every case, the cable size was under-estimated—cables with too few pairs were used. In short, the growth of the company has turned out to be much greater than was originally

estimated. As an example of the tremendous growth possible under an improvement and expansion program, several 26-pair cables were buried along residential streets that had from three to eight telephones. In practically every section, the cables are now full and more pairs are required. To meet the problem thus created, the company plans to run cables down streets parallel to the existing cable which will, in most cases, relieve the situation. But the fact cannot be escaped that the installation of one 51-pair cable is much cheaper than the installation of two 26-pair cables. Party lines have

D. B. CORMAN (standing), Kellogg representative, and MINOR CORMAN staking out new central office building at Atmore.

LEFT: Exhibit set up in the operating room at Atmore on opening day showing one-position of the old magneto switchboard, some old telephones, a new handset, and some other items, including posters from the Telephone Advertising Institute. ABOVE: Exhibit set up in office to demonstrate full selective ringing on party lines.

been used extensively to help relieve the problem also, and in some places it has been necessary to parallel the buried cable with an open wire route, pending the installation of more cable.

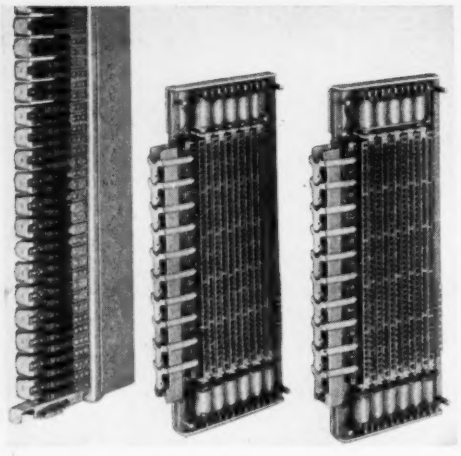
In the main, however, good permanent construction has been used to replace the old plant (see pictures on page 26.

It will be remembered that in this step there was a qualification that the new and rebuilt lines be capable of handling common battery or dial voltages. These systems provide either 24 or 48 volts of direct current on all lines at all times; magneto provides voltage on the lines only in the ringing period and from three to 4½ volts during talking. Lines that will accommodate magneto perfectly will break down under the constant voltages of the improved systems. The best way to determine whether your lines will stand the constant voltage is to try it. In a magneto exchange this can be accomplished by providing a source of 24-volt direct current and a kick coil on each line to be operated common battery. If a considerable number of lines are equipped in this fashion, it will provide a representative check on your work. In addition to the test, this idea also allows you to purchase new telephones that will not have to be abandoned on the cutover to dial or common battery. The Southland's experience was very satisfactory, and by the time the cutover was made, some 30 per cent of the company's stations were operating on this basis.

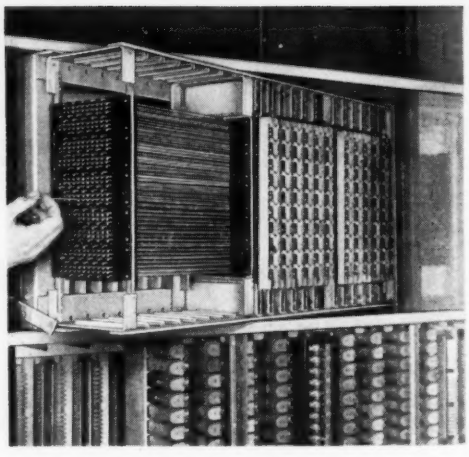
Considerable time, effort and expenditure of money will be necessary to complete this step, but the others should not be begun until this one is completed. If a new central office, or new telephones, are cut over onto the old plant, it will give worse service than the old magneto and the cus-

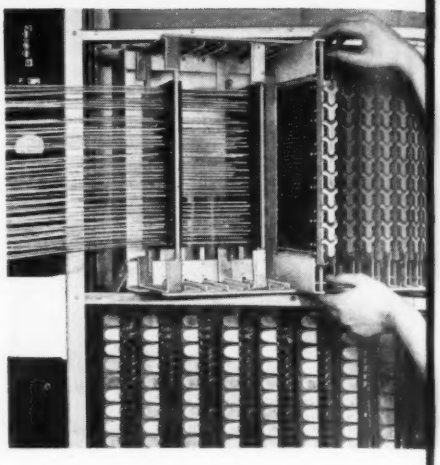
(Please turn to page 71)

In two hours or less . . . you can add a f



CONNECTOR RELAY BAR • FINDER SWITCH • CONNECTOR SWITCH





1 The three units above comprise a finder-connector link. They are shipped from the factory in separate cartons, wired and tested, ready to be jacked-in. They are carried in stock for immediate shipment.

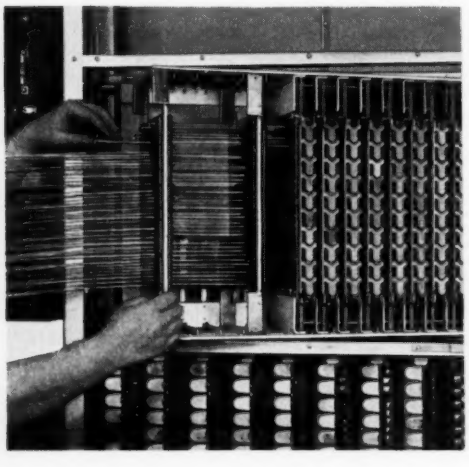
2 To jack-in the finder and connector switches, the multiple is swung out as in the above photo. The stainless steel bars which connect the switches to all the lines in the multiple are then pulled out just far enough to permit jacking-in the switches to be added.

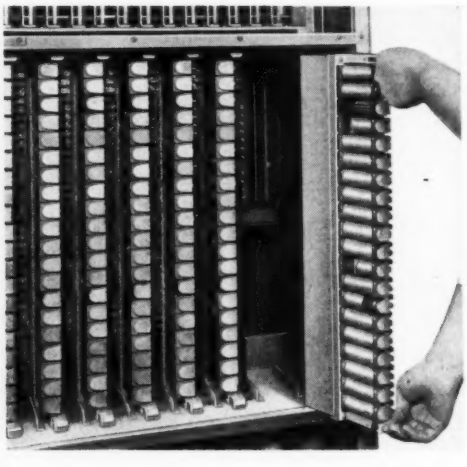
3 The finder and connecto are then merely jacked-in as show above. The jacks are already wire in the switchboard when it is ori inally assembled at the factor Any number of switches, up to th capacity of the board, may be ad ed at this time.

4 (below) The line multiple bars are then pushed back into place. They connect all the finder-connector switches to all lines in the multiple. Bakelite guide blocks make it impossible to insert them wrong, eliminate the possibility of opens or transposed wires in the multiple.

5 (below) The control relays for each link are mounted on a single relay bar, and are merely jacked-in as shown in the above picture. There's no wiring, no soldering.

Total Time... 1 or 2 hours

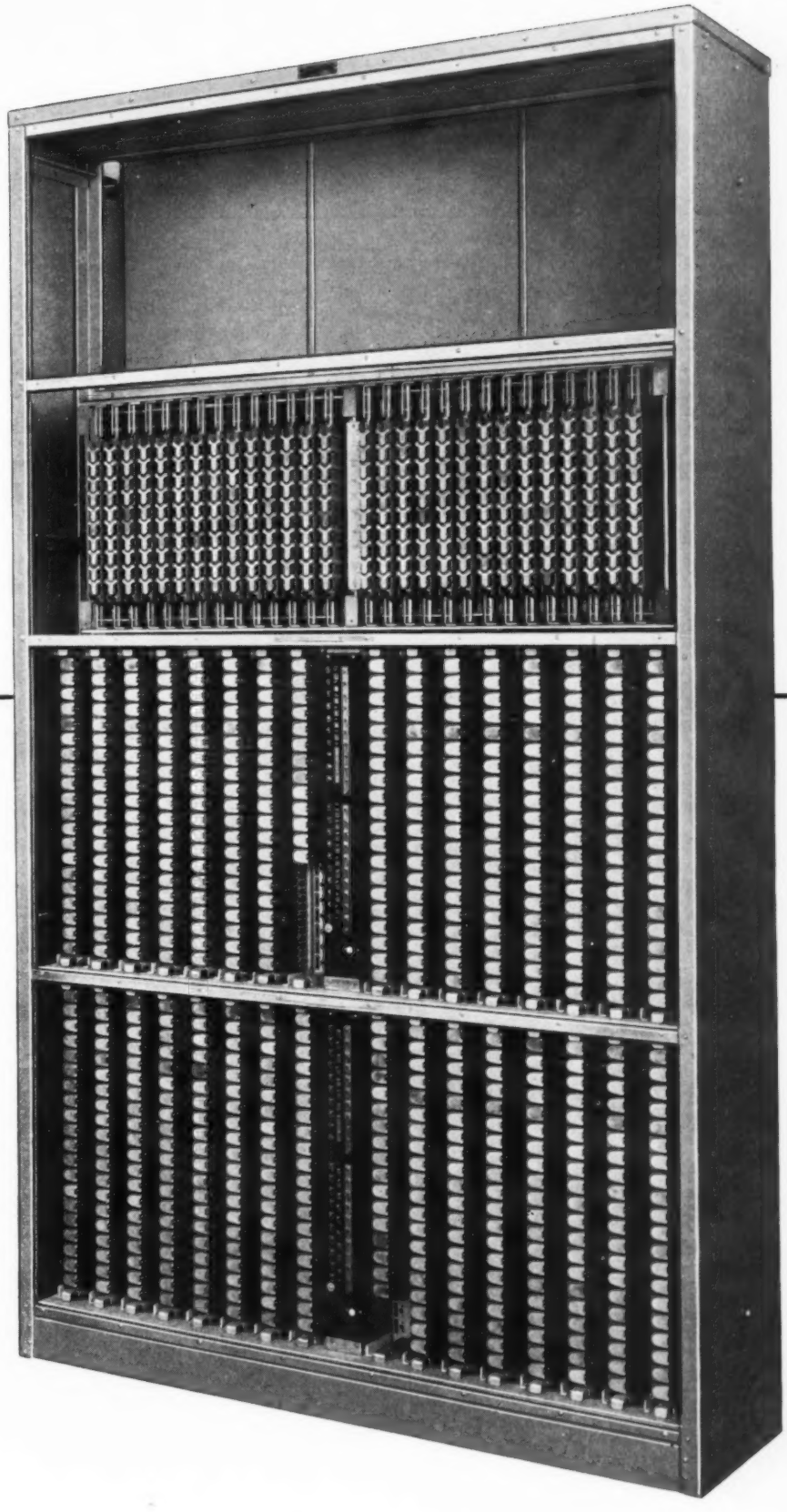




Thus, in one hour or two, your own switchboard man has added a finder-connector switch to your Leich Dial System. There've been no factory installers, no wiring or soldering to do, no chance for a mistake. The only expense has been the relatively inexpensive cost of the units themselves. Write for catalog. Leich Sales Corporation, 427 W. Randolph St., Chicago 6, Ill.

LEICH MANUFACTURERS OF TELEPHONES, SWITCHBOARDS AND RELATED APPARATUS SINCE 1907

a finder-connector link to your Leich Dial System



It's so easy to add a finder-connector link to a Leich Dial Switchboard. There are no connections to be soldered. The three parts that make up a link can be jacked-in by the average switchboard maintenance man in an hour or two. It is impossible to make a mistake. Opens or transposed wires in the multiple are a thing of the past.

Here indeed is provision for future growth or traffic changes, more simplified and less costly than was ever before possible in a dependable, relay-type dial switchboard.

Write today for the catalog which completely describes this revolutionary new Leich Dial System. Address Leich Sales Corporation, 427 West Randolph Street, Chicago 6, Illinois.

CABLE SPLICING

By DANIEL SEITZ
Cable Superintendent
York (Pa.) Telephone & Telegraph Co.

[EDITOR'S NOTE: *In this article, the author describes in detail the wiping of a splice in lead covered cable. This is definitely the most difficult operation in cable splicing for the average student. By carefully describing each operation, and with the help of the numerous photographs, this operation is clarified considerably. The numerous special "kinks" described should prove of assistance to the practical cable splicer.*]

* * *

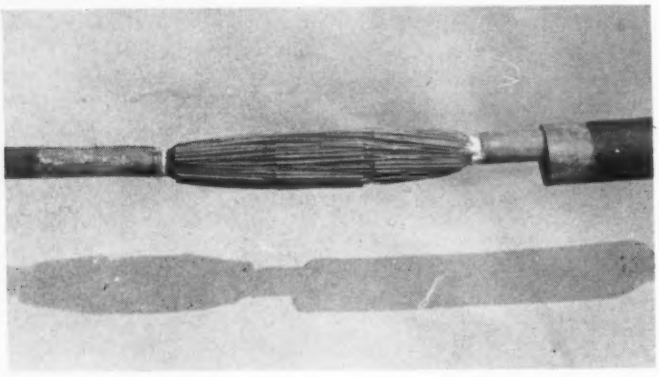
THE finished cable splice should have the appearance of that shown in *Fig.* 1, with the tubes evenly spaced. This is a 100-pair, 22-gauge splice. The sheath opening is 12 ins. with 1¼ ins. at each end from the sheath to the first sleeve. There is one-quarter of an inch space between each group of sleeves. This arrangement makes a neat symmetrical splice.

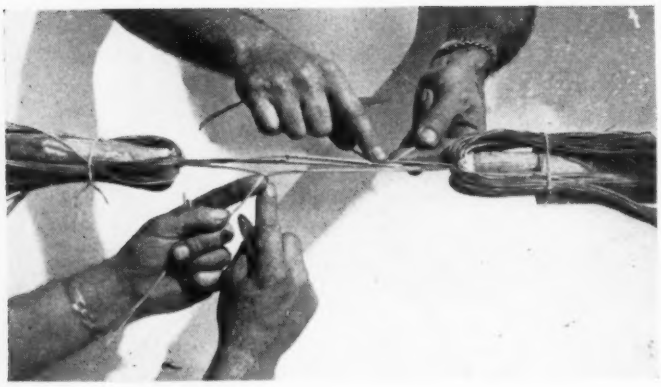
PART V. The fourth part of this series appeared in the Aug. 28 issue, page 17.

Fig. 2 shows a splicer and his helper making an aerial splice by starting from the core and working out. The splice shown in *Fig. 1* was made in this manner.

Nearly all underground splices must be made near the manhole walls. Therefore, splicing is started at the back, working toward the front. The pairs on the back or first pairs that are spliced must have the correct amount of slack left in each pair to keep the splice symmetrical.

Fig. 3A shows how the cables are first set up in a straight line and the proper size opening provided for the particular size cable to be spliced. Both ends of the cable must be lashed securely to the cable racks (see *Fig. 3L-L)*, or otherwise held firmly in place. Next, bend one end of the cable out of line as illustrated in *Fig. 3-B*, so that the length of the opening will be increased as required by the number of pairs in the cable. The illustration shows a 300-pair straight splice set up and, in this case, the opening should be decreased approximately three-eighths of an inch after about 100 pairs are spliced. This is accomplished by bending the cable back into a straight line

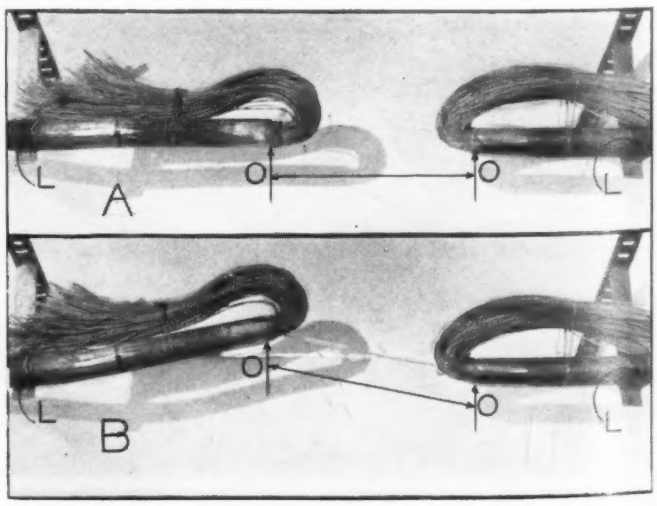


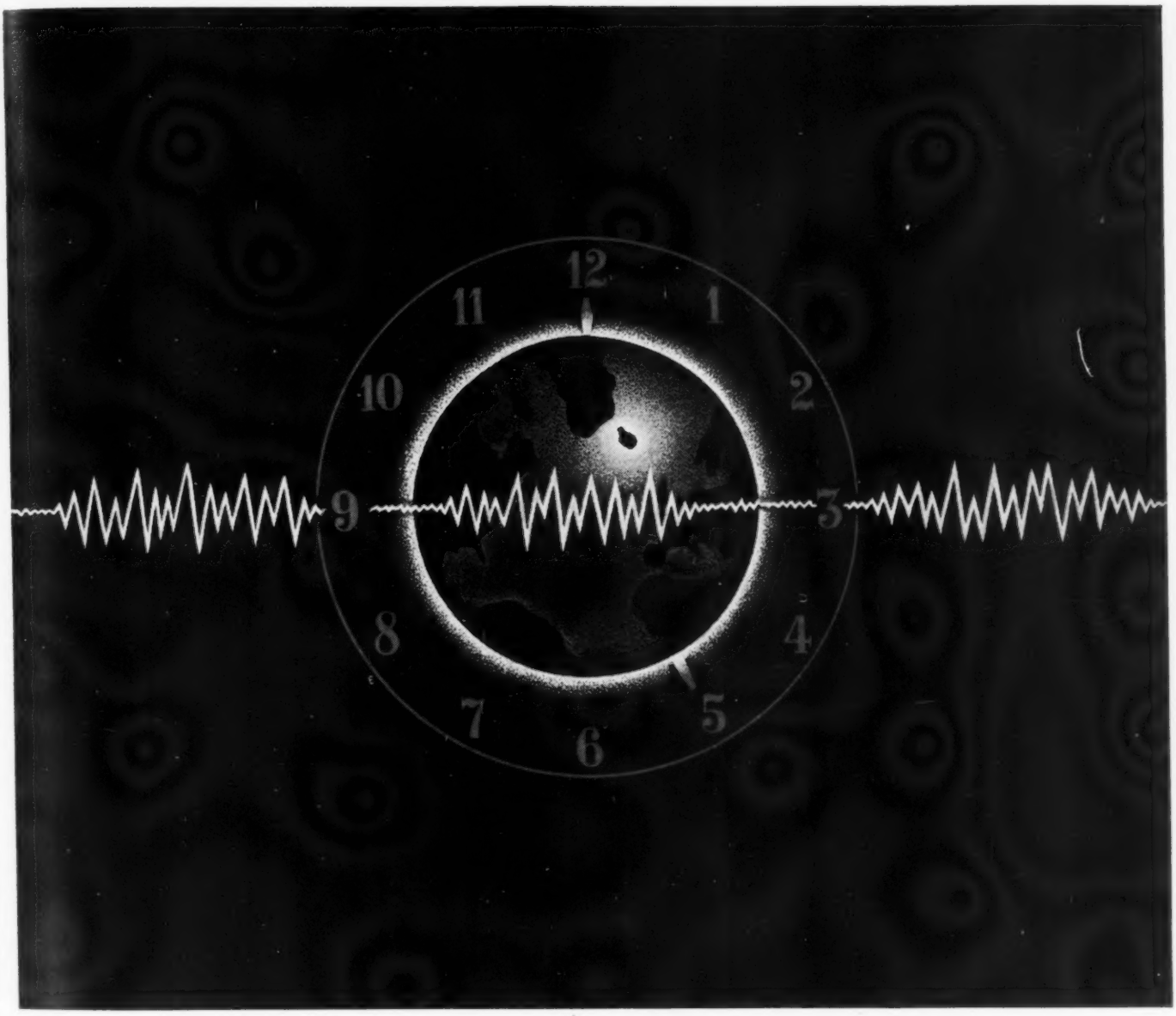


(Above left) Fig. 1. Symmetrically completed 100-pair cable splice.

(Below left) Fig. 2. Two splicers working from both sides of a splice.

(Below) Fig. 3-A. Normal opening O to O according to size of cable. Fig. 3-B. One end of cable bent out of line to increase opening length.





19 YEARS AGO THIS MONTH

The telephone industry drove another "golden spike"

Though for some time, trans-Atlantic telephone service had been available during certain hours, it was not until September 10, 1929 that it was placed on a 24-hour basis.

This event had considerably more significance than its announcement implied. It was the telephone industry's "golden spike" that joined the United States with all the nations of western Europe. Thus was established round-the-clock service between subscribers in this country and 85% of the telephones in use throughout the world. The telephone *Spirit of Service* was on the wing . . . maintaining its tradition of faithfulness and dependability.

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and the remaining pairs spliced without slack.

When splicing a 1,200-pair cable, for example, the set up is made as shown in *Fig. 3A*, then one end is bent out of line until the opening length is increased by 1¼ ins. *(Fig. 3-B)*. After splicing about 100 pairs on the back, the length of the opening is decreased one-quarter of an inch, and so on, until approximately 500 pairs have been spliced and the two cables are again in a parallel line. The remaining 700 pairs are then spliced without adding slack. Larger or smaller cables will require more or less slack according to their overall size.

Before starting the splice, beat in one end of the lead sleeve to approximately the size of the cable sheath, then slip it over either end as shown in *Fig. 4*. *Fig. 5* shows a desiccant treated splice with the catch cloth in place and the muslin wrapping being applied. The sleeve is next slipped over the splice and is beat in with a wood lead dresser as shown in *Fig. 6*.

Lead dressers made of Lignum-Vitae prove most satisfactory because of their durability and weight. An ordinary one-pound riveting hammer also may be used for beating in sleeves. Both ends of the sleeve should be "beat-in" to fit tightly to the cable sheath. Any openings between the sleeve and sheath on the bottom will have a tendency to cause the wiping metal to drop away on the bottom and make the joint difficult to wipe. Make certain that the sleeve is in the proper location covering about the same length of sheath at each end. Pasters (gummed paper) are placed around the sleeve and sheath, spaced about two inches apart on a two-inch sleeve. A greater distance is required on larger cables and sleeves.

Fig. 7C shows two widths of two-inch pasters both on the cable and sleeve. This method is used to avoid having any of the hot wiping metal cling to the lead sheath or sleeve.

The following tools and materials are absolute necessities for making satisfactorily wiped joints: Wiping metal, wiping cloths, metal pot, ladle, fire pot, catch pan and skill (the latter undoubtedly is the most important of all).

The wiping metal must be of good quality, approximately 40 per cent tin and 60 per cent lead. Most splicers prefer slightly more than 60 per cent lead

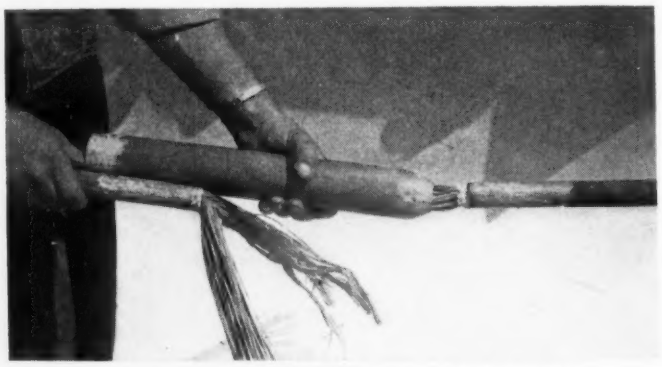

Fig. 4. Slipping "beat in" sleeve over end of the cable.

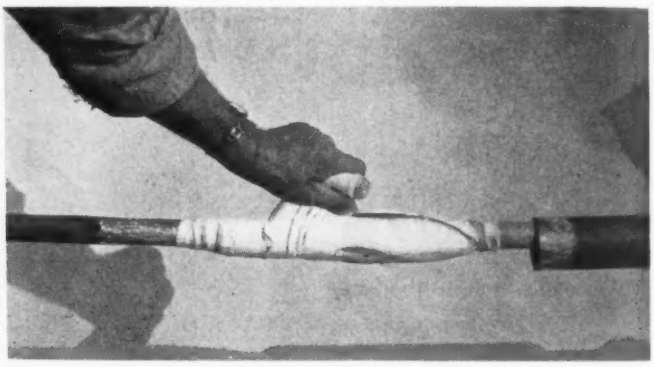

Fig. 5. Wrapping finished splice with muslin before covering with sleeve.

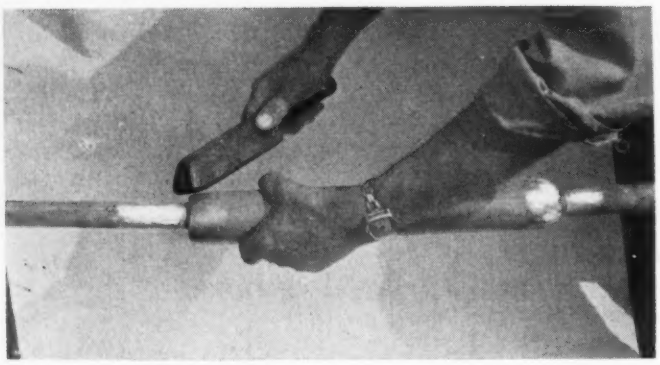

Fig. 6. "Beating in" the lead sleeve.

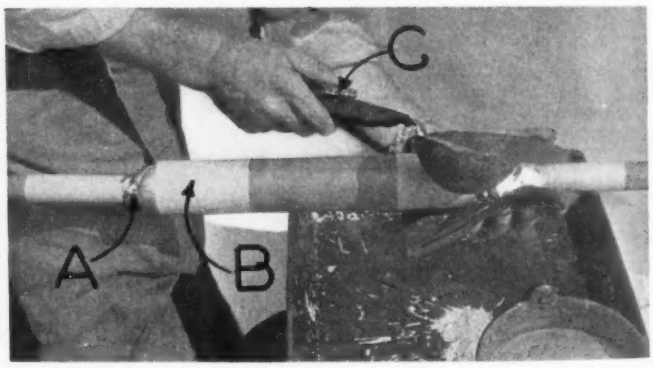

Fig. 7. Pouring the wiping metal in a convenient location.

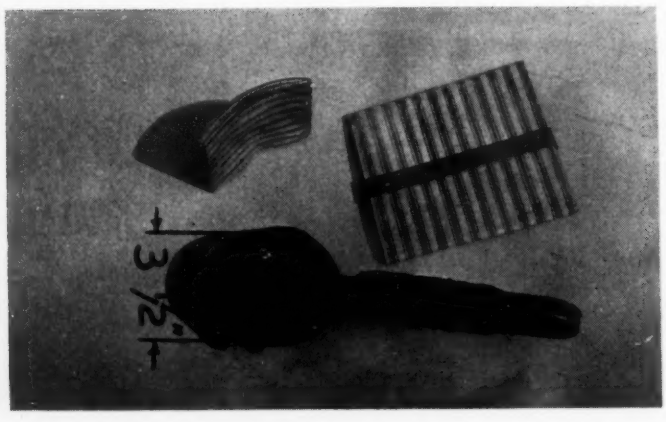

Fig. 8. Use of properly shaped pads and ladle are important.

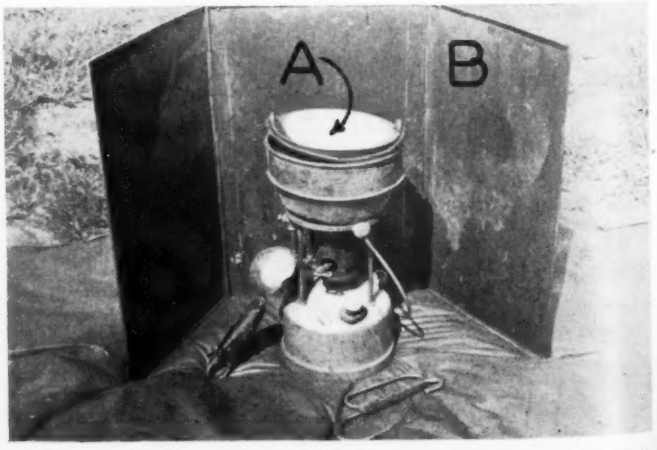

Fig. 9. Proper equipment for heating and handling of wiping metal.

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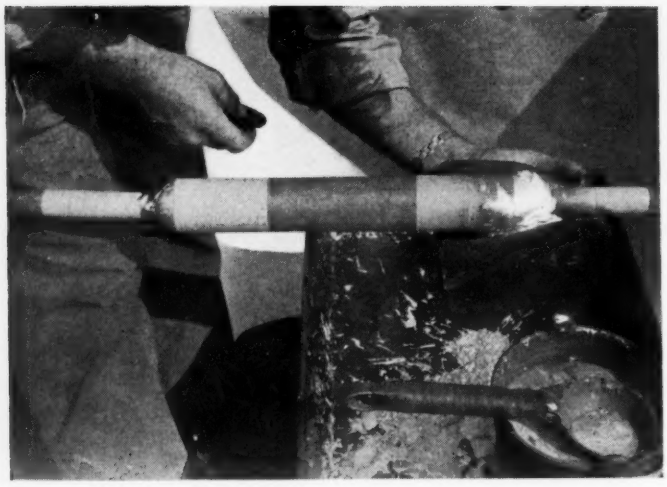

Fig. 10. Placing wiping metal on bottom of the wiped joint.

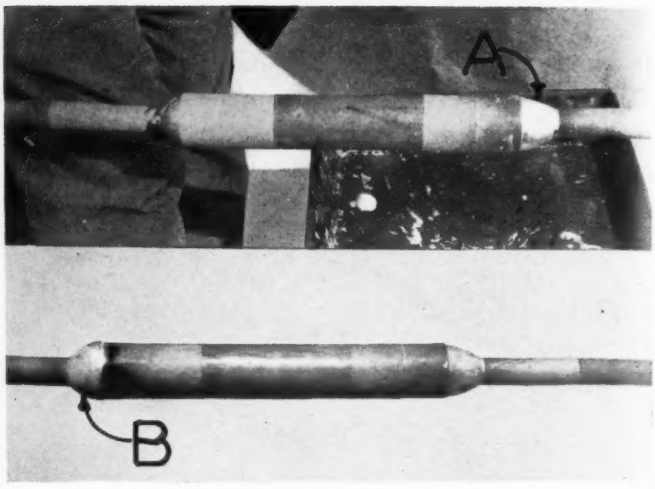

Fig. 11. Two distinctly different wiped joints.

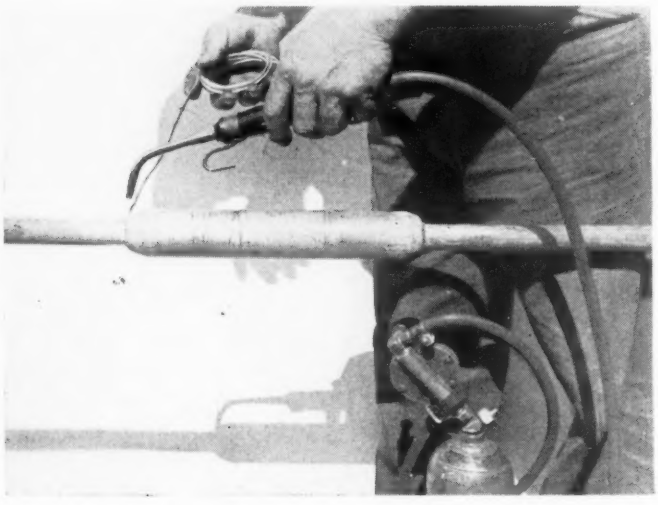

Fig. 12. Using an acetylene torch to seal a horizontal lead sleeve.

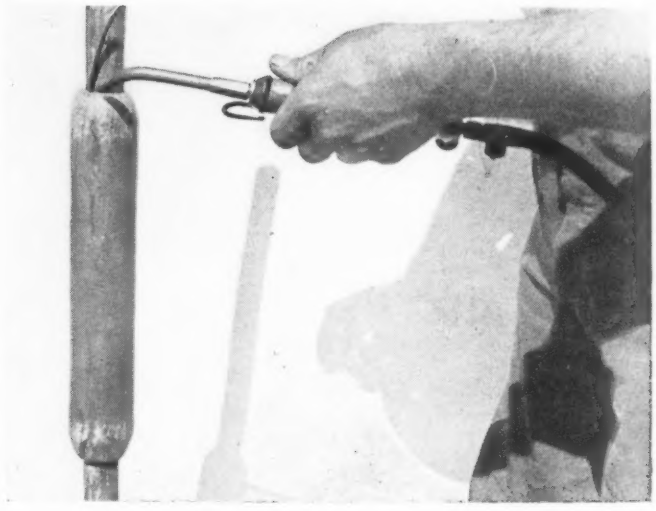

Fig. 13. Soldering an upright sleeve to cable.

and they add a small amount to the 40-60 mixture as it is received from the supplier. This makes it about 38 per cent tin and 62 per cent lead. Never add lead sheath to the mixture for it usually contains antimony. Use either a small piece of sleeving or other known commercially pure lead. If the bottom of the wiped joint, when it is hot, has a tendency to run, the tin content is probably too high. The addition of a small amount of lead will usually correct this difficulty. On the other hand, if the percentage of lead is too high the joint may wipe reasonably easy, but it will have a chalky appearance and is likely to be porous. Correct this condition by adding 50-50 solder to the wiping metal.

Wiping cloths of the correct size and shape, as well as their care, is most important. Catch cloths 6 ins. x 6 ins. and 8 ins. x 8 ins., made of herringbone ticking, are popular sizes. Finishing cloths 2½ ins. x 2½ ins., 3½ ins. x 3½ ins., and 4 ins. x 4 ins., in either herringbone ticking or moleskin, generally are used. Homemade ticking catch cloths will be found satisfactory if they are well saturated with stearine and then made smooth by rubbing well with a warm ladle before using. Shaped finishing cloths as shown in *Fig. 8* are preferred by many splicers.

These cloths conform to the shape of the wiped joint and are made so that they will retain this shape. They are also impregnated with stearine, ready for use.

The metal pot should be large enough to hold sufficient metal so that it will retain a temperature high enough for wiping joints on a small or medium size sleeve or one joint on the large size sleeve. The pot *(Fig. 9A)* is an eight-inch size suitable for use on any ordinary job. The ladle shown is a 3½ in. size. The fire pot may be either gasoline or kerosene, the latter usually being considered safer to use. A hood to hold the flame close to the metal pot is always a "must." The three-piece wind shield *(Fig. 9B)* speeds up the heating of the wiping metal during windy weather. The three sections fold flat for easy storage on a truck or cart.

A catch pan, 3½ ins. x 14 ins. x 21 ins., made of black sheet steel to prevent hot solder from adhering to it, completes the outfit.

Make certain that the wiping metal is the correct temperature, 670° F., by using a thermometer. This same instrument can be used for checking paraffin. The temperature of metal also may be tested by folding a dry piece of paper and placing the end in the hot metal and removing it immediately. If the paper is scorched to a point where it is about to ignite, then the metal is ready to use. Remove the dross from the top of the hot metal with the ladle by skimming it off. Then place the metal in a convenient position for the splicer to use. Next, dip the ladle in the hot metal several times to heat it properly so that it will not chill the first ladle full of metal before it can be used.

Before starting to wipe one end of the splice, tack the opposite end *(Fig. 7-A)* by pouring a few drops of hot solder, as indicated, to prevent the sleeve from rolling when wiping the first end. Hold the finishing pad between the thumb and handle of the ladle *(Fig. 7-B)* then begin by pouring

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Of the total orders for new McBerty switchboards currently on hand, 67% of the lines of equipment have been ordered by customers who have one or more McBerty systems in use. In arriving at this percentage, all totals used included only orders for new switchboards, additions were excluded.

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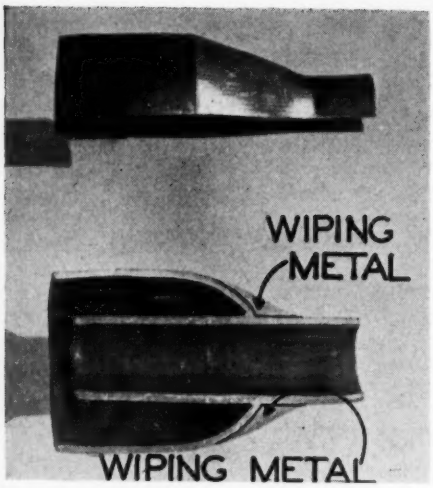
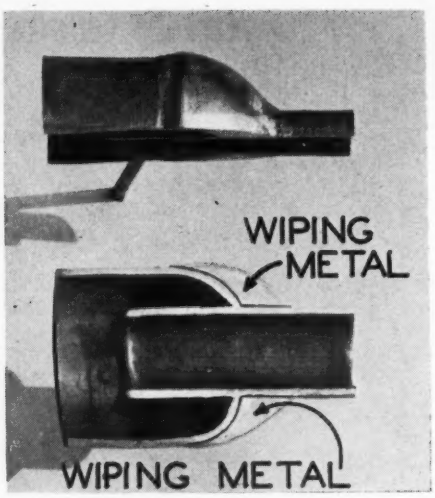
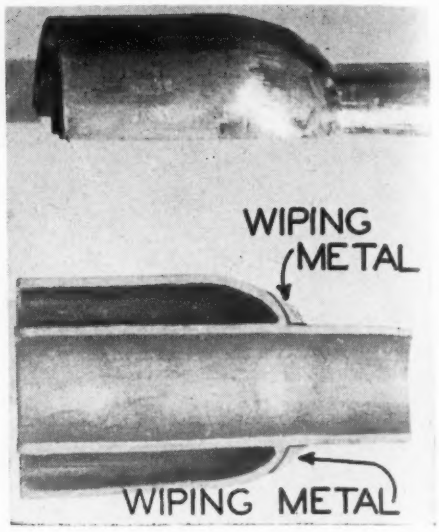
Originators of **ALL RELAY** *Systems of Automatic Switching*



Cross-section of the wiped joint shown in Fig. 11-A. This type uses a minimum of metal, yet it is entirely satisfactory.



Cross-section of full-rounded wiped joint shown in Fig. 11-B. This type joint uses more metal than is necessary to do a satisfactory job.



Cross-section of joint made by using stearine core solder and acetylene torch (Fig. 13). Uses an absolute minimum of solder and will make a strong moisture proof joint.

slowly, at first keeping the ladle in a constant rotating motion. Also, hold the catch pad about one inch below the joint so that the chilled metal, which forms sharp points, will not damage it. Just as soon as the sleeve is heated thoroughly, the catch pad should be brought up in contact with the sleeve and the sheath. Now continue to pour on hot metal, bringing it up frequently from the bottom to the top until the joint is well tinned and the required temperature has been reached. Then examine the bottom of the joint to be certain that it is tinned properly. The time required for this operation will allow the joint to cool slightly, making it necessary to again raise the temperature of the joint by pouring more hot metal on it. This action will require only a short time to return the joint to wiping temperature.

Next, drop the ladle and, with the catch pad and finisher, rotate the metal from top to bottom and bottom to top several times to equalize the temperature of the joint. Then bring up the excess metal on both sides and wipe off the joint with the finishing cloth. This is accomplished by bringing it up around the joint on each side and removing any small excess solder at the top or sides. Some splicers finish the joint after it has reached the desired temperature by pulling the excess solder with the catch pad and finishing cloth from the bottom to the top on both sides of the joint at the same time.

Next, pull the excess solder back on the pasters with the finishing cloth, and then into the catch pad, quickly placing it on the bottom of the joint with the catch pad. Then, using the catch pad on one side and the finisher on the other, the excess metal is brought up on both sides of the joint again and off at the top. The joint is then shaped and wiped smooth with the finishing cloth.

Fig. 10 shows the metal that has been taken from top to bottom being placed on the bottom with the catch cloth. This procedure is the same for either method of wiping. To conserve wiping metal, the joints should be wiped as shown in *Fig. 11-A*. A joint well tinned and wiped in this manner will be equally as strong as a fully rounded-out joint shown in *Fig. 11-B*.

Fig. 12 shows a method of making a satisfactory joint on a horizontal sleeve with the minimum of solder and labor. The sleeve is "beat in" in the regular manner and soldered by using an acetylene torch and stearine core solder. With this method, pasters are not necessary.

Fig. 13 shows how to make a joint of the same type on an upright sleeve. This is by far an easier method than making the conventional wipe joint on an upright sleeve and will be found equally satisfactory. This is especially true since most upright splices are rigidly supported on the side of poles, buildings, etc. When an upright sleeve must be placed over a trouble opening or splice with wiped joints, bending the cable so that the sleeve may be placed with the cable in a horizontal position will facilitate the job.

The use of a round pad with a hole in the center to fit the cable, and open from one side into the center hole so that it may be placed around the cable and shaped like a funnel, will facilitate the wiping of upright joints. For the top joint, the hole must be the size of the sleeve. The wiping metal is poured into the pad and rotated around the cable and sleeve until the joint is well tinned and of the proper temperature for finishing.

Some splicers prefer to splash the wiping metal from the ladle to the joint on this type of splice until it is sufficiently heated and tinned, then finish it with the conventional wiping cloths. Any excess wiping metal or defects are usually remedied by using a torch. An acetylene outfit will be found useful for this purpose.

(To be Continued)

AUF WIEDERSEHEN

A fellow in Milwaukee tried to squeeze into a party line recently, but two hausfrauen with rich German accents kept the telephone tied up. He waited for 15 minutes, then for another 15 minutes and finally for 10 minutes more. The last time he noticed that the ladies' conversation seemed to be lagging, so he waited for a moment when both of the women paused, apparently trying to think of something else to talk about. "Vell, goot-by," he said into his telephone. There were two clicks as they hung up and he had the line at last.

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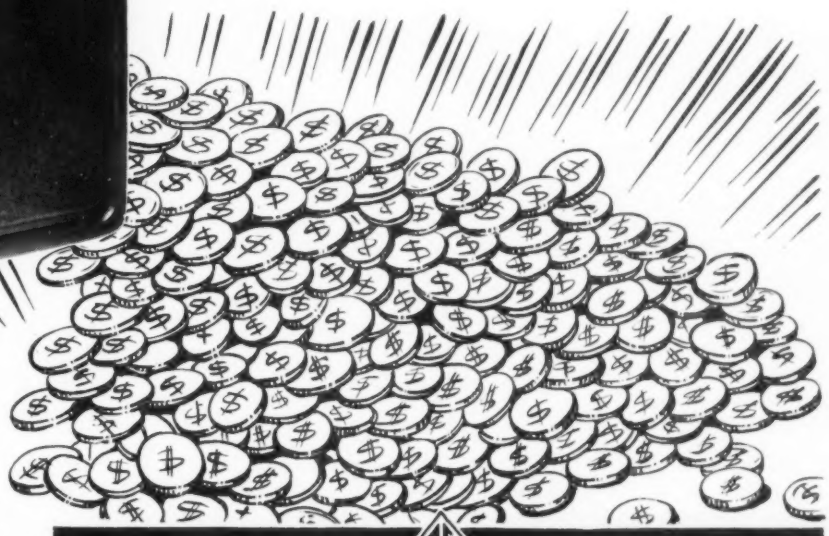
The average revenue per paystation in the Bell System last year was over four times* the average revenue from other subscriber stations.

You can increase your income the same way—by actively promoting the extensive use of paystations. Modern Autelco-Gray Paystations will quickly "pay for themselves," and then continue to produce for many years after the initial cost has been absorbed. Let us send you complete details.

*Although paystations constitute only 1.5 percent of the Bell System's total stations, this source of income produced 7 percent of the company's entire 1947 receipts.



One of the many available types of Autelco-Gray Paystations which include assemblies to meet every requirement of paystation service.

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THE PLANT MAN'S *note book*

BY RAY BLAIN TECHNICAL EDITOR

WE HAD the pleasure recently of examining a small hand generator designed to mount in the dial opening of a conventional type telephone. This generator could be revolved by placing fingers in convenient holes somewhat like the finger plate on a dial or by the use of a small crank that folded into a slot. A quarter of a turn on the armature of this generator would kick a drop or operate a visual signal on a switchboard.

• • •

It has been said: "It is not the hours you put in your work, but the work you put in your hours."

• • •

We continue to hear complaints on party line service. One worker in our office has a telephone on a 10-party line and seldom is able to reach his wife during the day if it is necessary to advise her that he is working late at night. Then another neighbor, who has been waiting for over a year for service, was advised by the telephone company that it was now able to give him a station on a four-party line. He declined with the contention that anything less than a two-party line would be worthless.

It appears that the ultimate aim of most telephone customers in many localities is individual line service. They simply refuse to be happy with anything less!

• • •

The efficiency of a properly equipped contractor in the construction of underground conduit structures exceeds by far the possibilities of some operating telephone companies.

This is to be understood when we consider that a contractor has men trained in this work and that he spends the greater part of his time on this type of construction, whereas, the average telephone company has only an occasional job and by the time a crew is assembled and trained, the project is finished. Further, contractors, because of their large volume of work of this nature, can afford to take advantage of labor saving machinery.

There is no doubt but that a good contractor can provide a better underground conduit system at a lower cost than is possible by some operating telephone companies.

• • •

A very good article titled: "The best place for a telephone" was published in September, 1948 "Better Homes and Gardens." This article states that: "Like your car, your telephone is a convenience. But it is a nuisance if you are always four rooms or 15 stairs away from it when it rings."

Various suitable locations in the home are analyzed and the convenience of being near a telephone when it rings is stressed.

Extension telephones, properly placed, make this possible at a low cost.

This article contains useful propaganda for any operating company.

• • •

A new line of regulated rectifiers for heavy duty application has recently been announced. These fully regulated rectifiers may be had with either electronic control for fast response or magnetic amplifier control for vacuum tube elimination. Both types are fully automatic with no moving parts.

Standard models offer current ranges from five to 10,000 amperes and voltage ranges from 10 to 500 volts. Voltage regulation is obtainable to plus or minus one-half of 1 per cent from no load to full load, with a 10 per cent change in supply line voltage. D.C. ripple may be reduced to 1/100 of 1 per cent. Recovery time under severe load changes is only a fraction of a second.

• • •

A step ladder of a new design, recently placed on the market, should prove of interest to telephone operating companies because of its safety features.

This new ladder has sturdy, hinged platforms at three convenient levels instead of the conventional treads found in most stepladders. When a workman stands on one of these platforms he is literally standing in the ladder. This assures a firm footing directly over the center of gravity. The platforms not in use swing easily out of the way.

• • •

We are in receipt of a letter from P. M. Schuchart, manager of the Southeastern Telephone Co., Tallahassee, Fla., in which he tells us why Shalimar, one of the western Florida towns his company serves, is "different." Just recently, this community celebrated its second anniversary as an incorporated town, and here are some of the facts which were compiled:

(1) There has not been a baby born in the town.
(2) There has not been a death in the town.
(3) There has not been an arrest in the town.
(4) There is no policeman or fireman on the town payroll.
(5) There are no water bills — the water comes from freely flowing artesian wells.
(6) There are no voting precincts in the town.

The Southeastern Telephone Co. serves Shalimar with an unattended dial exchange and Mr. Schuchart writes that he wishes he could say that there are no "held" orders.

• • •

Twist and line unlaying in wire rope has ever been a bothersome detail when using winch lines from construction trucks to pull in cable or to raise long heavy poles. This difficulty can now be avoided by the use of a recently de-

(Please turn to page 54)

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IT'S a familiar sight. And every time you see a big reel marked ***Western Electric*** it means just one thing—more *telephone cable* to provide more and better telephone service.

To help handle your ever-growing use of the telephone, Western Electric this year is making cables containing over *13 million miles* of wire!

Millions of telephones—great numbers of switchboards—and countless other items are being made, too.

For 66 years, Western Electric has been the manufacturing unit of the Bell Telephone System—helping to make your service the world's best at the lowest possible cost.

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Western Electric

A UNIT OF THE BELL SYSTEM SINCE 1882

57 TO DATE IN '48!

FROM January 1 to September 15, fifty-seven new* Strowger automatic exchanges were placed in service—fifty-seven exchanges in less than nine months!

Fifty-seven more exchanges added to the many hundreds that Automatic Electric had previously engineered and produced—adding to an unequalled wealth of experience in this field.

Fifty-seven more exchanges for which independent telephone men selected Strowger Automatic because of its proved record of performance. They saw no reason to experiment.

That record of fifty-seven completely NEW* exchanges in just a few months is proof that independent telephone men prefer Strowger Automatic—and are getting it, in ever-increasing quantities.

***NOT including many thousands of lines of additions to existing exchanges.**

ALDERWOOD MANOR, WASHINGTON, 80 LINES
West Coast Telephone Co.

ALMOND, WISCONSIN, 100 LINES
Almond Telephone Co.

ATLANTICS, NORTH CAROLINA, 50 LINES
Carolina Telephone & Telegraph Co.

AVON LAKE, OHIO, 1,000 LINES
Lorain Telephone Co.

BEEMER, NEBRASKA, 110 LINES
Cuming County Independent Telephone Co.

BISCOE, NORTH CAROLINA, 150 LINES
Virginia Telephone & Telegraph Co.

BLUFF CITY, TENNESSEE, 200 LINES
Inter-Mountain Telephone Co.

CONNEAUT LAKE, PENNSYLVANIA, 200 LINES
Meadville Telephone Co.

CHINO, CALIFORNIA, 600 LINES
Associated Telephone Co., Ltd.

CLAREMONT, CALIFORNIA, 800 LINES
Associated Telephone Co., Ltd.

COVINGTON, VIRGINIA, 1,400 LINES
Clifton Forge-Waynesboro Telephone Co.

DUNN, NORTH CAROLINA, 1,150 LINES
Carolina Telephone & Telegraph Co.

EMLENTON, PENNSYLVANIA, 325 LINES
Peoples Telephone Corp.

EPHRATA, PENNSYLVANIA, 900 LINES
Denver & Ephrata Telephone & Telegraph Co.

FREDONIA, NEW YORK, 800 LINES
Dunkirk & Fredonia Telephone Co.

GRANADA, CALIFORNIA, 300 LINES
California Water & Telephone Co.

HALIFAX, NORTH CAROLINA, 250 LINES
Virginia Telephone & Telegraph Co.

HICKORY, NORTH CAROLINA, 2,460 LINES
Hickory Telephone Co.

HILDEBRAN, NORTH CAROLINA, 30 LINES
Hickory Telephone Co.

IMPERIAL, MISSOURI, 100 LINES
Ozark Central Telephone Co.

INYOKERN, CALIFORNIA, 100 LINES
Interstate Telegraph Co.

IRVING, TEXAS, 600 LINES
Southwestern States Telephone Co.

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veloped swivel. Originally designed during the late war for the Army Air Forces, these swivels are used especially to remove the torque from glider tow ropes and now are available for commercial use.

The efficient design of these swivels makes possible the use of the entire bearing surface of three ball races. The effective freely rolling surface provided enables the swivel to carry the maximum load for the smallest diameter and length possible. It is of the anular type for greater sheer and shock load and will swivel freely under maximum load.

• • •

A new voltage stabilizer has been engineered specifically for building into electronic equipment where space and weight limitations are critical. This miniature stabilizer is of five-watt capacity and is designed for operation at an input voltage of 95 to 130 volts AC, 60 cycles, single phase, with an output of 120 volts stabilized to plus or minus ½ per cent.

PLANT MAN'S QUIZ

Q. How do the maximum talking and signaling limits of common battery rural lines compare with the limits on magneto lines?

A. Signaling over magneto loops, without repeating coils, is generally satisfactory over 3,000 ohm conductor loops with as many as 20 stations. This value would permit loops of about 44 miles of No. 12 HTL-85 steel wire. Signaling over common battery loops, using either common battery or local battery talking, is governed entirely by the signaling limits for the particular type of central office equipment used. These limits vary for different switchboards, the more common type having limits ranging from about 500 to 1,200 ohms, conductor loop.

Long line equipment of the latest types will usually permit extending the signaling limits beyond the transmission limits for all types of commonly used line facilities. The cost of this equipment may, however, prohibit its use except as required on some of the longer lines.

• • •

Q. We have always been of the opinion that cold water pipes make almost a perfect ground connection if the ground wire forms a good electrical contact with the pipe. Tests have proved otherwise in our exchange. In your opinion, is it always safest to make use of ground rods in preference to water pipe grounds?

A. There is little doubt but that good ground rods provide an ideal means of making effective ground connections in most localities. Cold water pipes are nevertheless generally effective ground connections except where certain unsatisfactory conditions are encountered.

When water pipes are of considerable length with small cross sections, and the current must traverse the pipe over a long distance before passing into the ground, the resistance may be objectionably high. High resistance joints in the pipe may also prove objectionable.

Lead joints do not usually cause trouble, although leadite or cement used in the pipe joints may seriously increase the resistance of the ground.

• • •

Q. Are there any effective means which you can suggest for preventing nuts on through bolts of an open wire line from becoming loose? We tighten these nuts firmly, but find that the vibration from the wind causes them to loosen.

A. Special lock nuts may now be obtained from your telephone supply house which are designed to prevent trouble of this nature. These lock nuts are used in conjunction with regular through bolts and nuts. The lock nuts are run down on the regular nut until a free fit is obtained. Then take one-half turn to lock the two nuts together to form a solid unit. This special lock nut is installed without the use of special wrenches.

• • •

Q. We are troubled by noise on our rural lines since power circuits were installed in our area. It is peculiar, however, because this noise is definitely not a 60 cycle hum, which is the frequency of the power system. Can you explain the probable cause of this noise trouble?

A. The usual fundamental power line frequency of 50 cycles is too low to be heard as noise in telephone circuits which, in general, pass useful frequencies ranging from about 200 to about 2,700 cycles. Power line voltages and currents, however, include in addition to the fundamental, a number of voltages and currents with frequencies within the voice frequency range and which are known as harmonics. These harmonics are multiples of the fundamental. Harmonics, as well as the fundamental, affect telephone circuits by magnetic and electric induction. The harmonics are usually the principal noise makers. The nearer the disturbing harmonic frequency is to about 1,100 cycles, the greater will be the disturbing effect. This is due primarily to the fact that the normal ear is most sensitive to a given sound volume at approximately this frequency.

The greater part of the power transmitted over the power circuit will be at the fundamental frequency, but, for higher voltage lines above 5,000 volts, a considerable amount may be transmitted at some of the harmonic frequencies. This power may in some cases range up to a few thousand watts. In general, the greater the power transmitted at harmonic frequencies, the greater will be the interference in the disturbed telephone circuit. If an interfering harmonic current in a power circuit has an energy value as high as 100 watts and the inductive coupling between the power and the disturbed telephone circuit, for that particular harmonic current, is, for example, 60 db, there will be induced in the telephone circuit a power energy at the harmonic frequency of 100 microwatts.

Speech energy on a telephone line may reach levels as low as 10 microwatts or less and the induced noise energy of ten times that amount would probably make the speech unintelligible, depending upon the harmonic frequency. Also, other induced harmonic currents within the voice range would contribute their noise energies to the total noise in the telephone circuit further reducing the possibility of hearing intelligible speech.

• • •

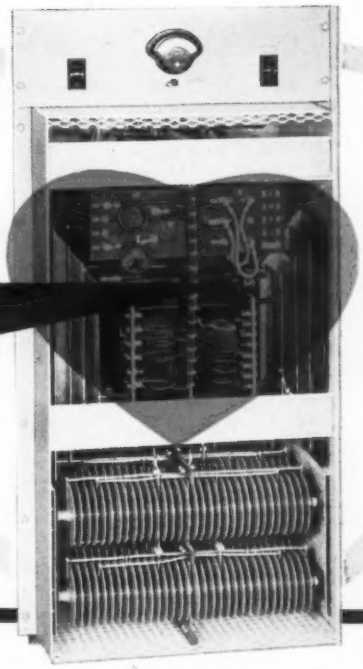
Q. What type of aluminum paint is recommended for use on main frames, cable racks, and other iron work in a telephone central office?

A. Generally, aluminum enamel is recommended by paint manufacturers for this purpose. This type of paint gives a chrome-like, highly decorative, satin-smooth finish. It employs the finest aluminum pigments for the high reflectivity and beauty of burnished metal. Aluminum enamel is also heat-resistant so that it may be used on such surfaces as radiators, furnaces, hot-air ducts, water heaters and steam pipes, if desired.

IT'S DIFFERENT!

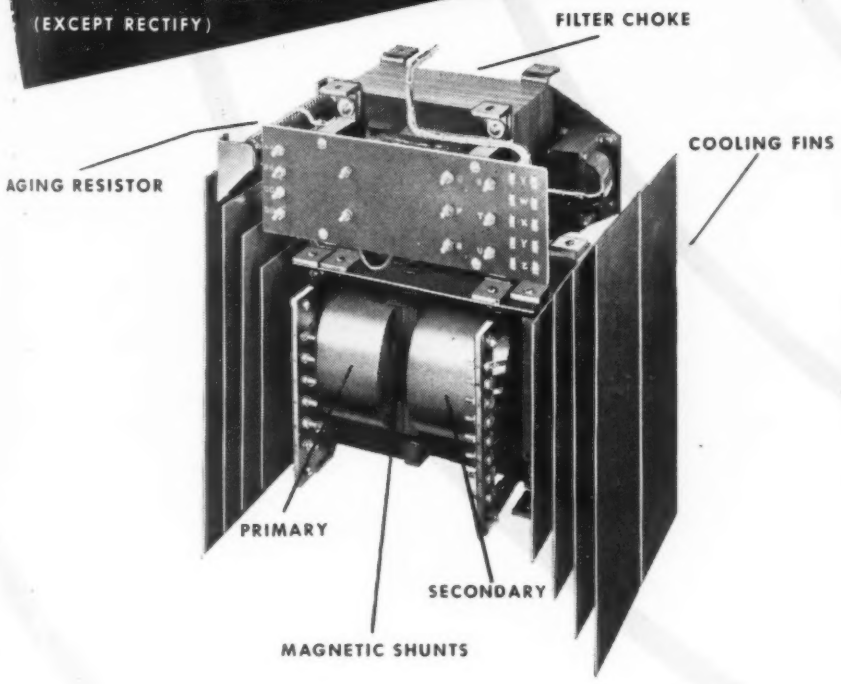
FLOTROL-

THE ALL NEW BATTERY CHARGER



BECAUSE—A SINGLE MAGNETIC PART DOES EVERYTHING!

(EXCEPT RECTIFY)



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FLOTROL WITH FEWER PARTS = HIGHER EFFICIENCY / HIGHER POWER FACTOR = DOLLARS SAVED

BECAUSE OF:

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- Reduced Possibility of Service Interruptions
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THE OPERATOR'S Corner

BY
MAYME WORKMAN
TRAFFIC
EDITOR

TO OPERATE a business successfully, it is necessary to have capital, a sufficient number of qualified, trained employes to do the work, necessary tools for production, management to plan and supervise the job, a reasonable return on the investment in the business to reimburse the stockholders for the use of their money, and a surplus set aside for replacement and rehabilitation of plant and equipment and for emergencies.

The telephone business is not unlike any other in its needs and requirements as stated above. It, too, must have money to operate, to meet payrolls, pay taxes, replace and rehabilitate equipment, pay investors for the use of their money, and set aside a surplus for emergencies and investment in new material and equipment.

To operate successfully, every business must keep operating costs within the budget. Enough trained people must be provided to render satisfactory service to customers. Providing employes over and above the number required to do a satisfactory job will unbalance the budget.

In telephone exchanges, operating costs are properly maintained by making traffic studies, commonly known as peg counts. These counts are the basis for determining the number of persons required during the various hours of the day, to do a satisfactory job, with a reasonable amount of effort on the part of the operator. Failure to make traffic studies at prescribed intervals may, and it frequently does, prove costly to the telephone company by having more persons than necessary on its traffic force, or, service may be unsatisfactory if sufficient operators are not provided to handle the volume of traffic.

Considerable work is required in taking a peg count and accuracy in taking it is essential. The operator is responsible for counting each call. Clerks, supervisors, and chief operators tabulate the count, depending upon the size of the office, and when all of this has been accomplished, the traffic must be equated.

In large and medium sized exchanges, peg count information is the basis for preparing schedules and providing operators to do the job of handling local and long distance calls, satisfactorily and economically. Therefore, telephone companies cannot afford to neglect these essential traffic studies.

"Hello, Lulu Bell—for some reason I been thinkin' of you all day, baby!"

Traffic Questions

(1) Is it true that telephone companies in large cities pay the operator's carfare when she works a late evening trick?

(2) In taking peg count in a tributary office, how should the calls be counted that are received over ringdown trunks from your toll center relative to calls which the toll center handles for us?

(3) Why is it necessary to take a toll peg count?

(4) Is it necessary to take a toll peg count in a tributary office if you do not record or handle any of your toll calls, but connect your subscriber directly with the toll center for recording?

(5) When should the world "Please" be used in dealing with a customer?

Answers to these questions are presented on page 72.

V V

»» "Everything's alright," the skipper of a floundering Gloucester boat told his wife. The crew was fighting to keep the ship afloat 35 miles from land, but with a radio-telephone on board, the skipper could call home, and did.

. . . an open invitation

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and their wives,
and their friends,
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Courts and Commissions

ICC Grants Rate, Operating Petitions of Two Companies

The Illinois Commerce Commission on Sept. 15 entered an order permitting the Chesterfield-Medora Telephone Co., Chesterfield, to make effective the following annual rates for telephone service in Chesterfield, Medora, Rockbridge and in Macoupin and Greene Counties:

Chesterfield and Medora exchanges: *Business* — individual, $36.00; rural multi-party, $33.00; extension, $9.00; *Residence* — individual, $27.00; two-party, $24.00; rural multi-party $27.00; rural extension, $6.00.

Rockbridge exchange: *Business* — individual $30.00; rural multi-party, $30.00; extension, $9.00; *Residence*— individual, $24.00; two-party, $21.00; rural multi-party, $24.00; extension, $6.00.

The following day, Sept. 16, the commission granted a certificate of convenience and necessity to the Cornell (Ill.) Community Telephone Co. to take over and operate the property of the Cornell (Ill.) Telephone Co.

The property of the former company was sold Dec. 4, 1947 and the company ceased to operate Jan. 1.

The new company will operate under the rates, rules and regulations filed by the old company.

V V

Recommends Higher Rates For Oklahoma Company

Following a hearing on Sept. 21, W. H. Sollers, trial examiner of the Oklahoma Corporation Commission, announced that he would recommend rate increases for the E. K. Cross Telephone Co., Webbers Falls, Okla., as follows:

	Present Rate	*Recommended Rate*
One-party, business	$2.50	$3.50
One-party, residence	1.50	2.00

These are basic rates with the privilege of charging 25 cents per month additional for handsets.

The examiner's recommendation must be approved by the commission before they become effective.

H. W. Hubenthal, secretary, Oklahoma Telephone Association, presented exhibits to show an annual operating loss of $1,054.54 on the investment before interest as the principal reason for asking for the increases.

V V

New Jersey Bell Requests Second Rate Increase

New local service and intrastate toll rate schedules which would increase annual revenues by $16,036,000 were filed with the New Jersey Public Utilities Commission Sept. 14 by the New Jersey Bell Telephone Co. The company increased rates by $10,515,000 nine months ago. The proposed new schedules would affect all classes of telephone service throughout the state.

Asking that the new rates become effective Oct. 15, the company said immediate relief is necessary to bring earnings up to a level which will place the company on a sound financial basis and offset the cost of wage increases recently awarded to employes.

The company recalled that the rate increases granted last November, which went into effect Jan. 1, were the first general increases in telephone rates in New Jersey in 22 years. The increase now sought and that authorized last fall, the company added, would together increase the company's revenues from intrastate services about 30 per cent. The company said that the increase was less than half the increase in living costs in New Jersey in the last 10 years.

V V

Suspends Rate Schedule of Pennsylvania Independent

Suspension of a rate increase for the Southern Telephone & Telegraph Co., Quarryville, has been announced by the Pennsylvania Public Utility Commission which is investigating the proposed rate schedule of the company.

When the application for higher rates was filed with the commission, the company made public the following rates for its Atglen, Christiana, Gap, Hensel, and Kirkwood exchanges: *Business*—from $2.92 to $5.25. *Residence*—one-party, from $2.92 to $3.59; four-party, from $2.50 to $2.75. *Rural*—one-party business, from $2.08 to $2.85.

V V

Wisconsin Bell Telephone Co. Files for Increased Rates

The Wisconsin Telephone Co. has requested permission from the Wisconsin Public Service Commission to raise more money by dropping the 25 cent monthly discount now allowed for prompt payment of bills. The company also proposes higher intrastate toll rates and increases in some types of local service (TELEPHONY, July 24, p. 36).

The revised schedule of rates which the company has filed would give a total revenue increase of about $700,000 a month. After taxes, this would increase company income by about $375,000 a month.

Temporary rate increases authorized last November have proved to be "grossly inadequate," said James B. Morrison, company president. Heavy expenditures to improve service, including an outlay of $52,000,000 in telephone plant and equipment since the end of the war, makes it necessary to improve earnings if the company is to remain in a sound financial condition, Mr. Morrison emphasized.

V V

Tennessee Commission O.K.'s Higher Toll Rates

The Tennessee Railroad & Public Utilities Commission on Sept. 14 ordered the Southern Continental Telephone Co., which serves some sections of west Tennessee, to show cause on Nov. 9 why its service should not be improved. The commission said it was acting in response to service complaints.

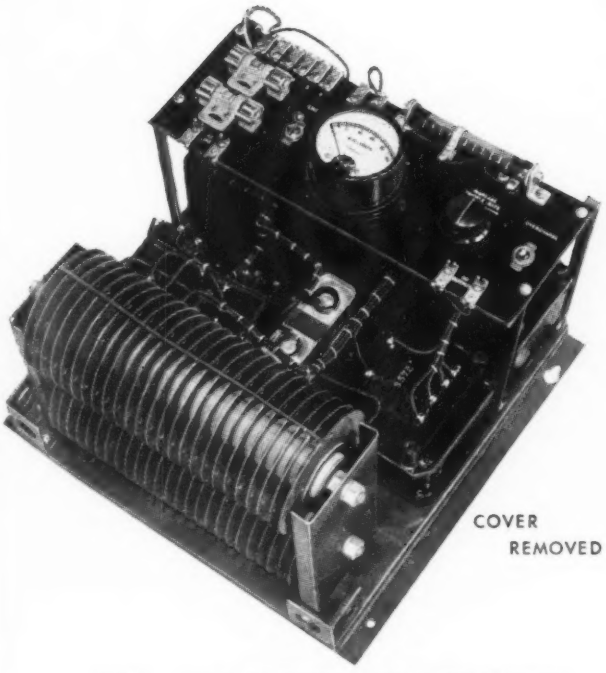
The commission at the same time granted the Southern Continental com-

(Please turn to page 62)

EITHER WAY

RAYTHEON SOLVES YOUR POWER SUPPLY PROBLEMS

With Batteries



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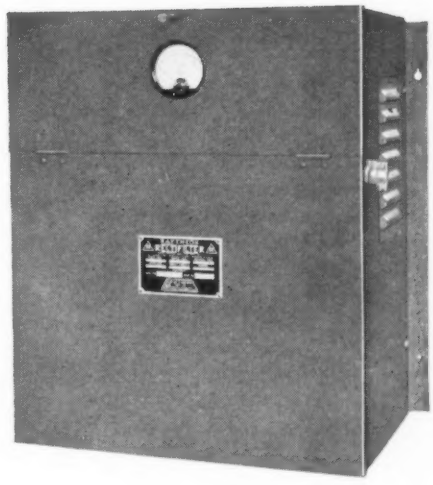
The RECTICHARGER

- Completely automatic self-regulating battery charger with no moving parts.
- Automatically follows the load.
- Maintains constant (±1%) D.C. voltage output recommended for most efficient operation of equipment.
- Compensates for wide (±15%) changes in input voltage.
- Prolongs battery life by preventing over and under charging.
- Self-protecting on overloads.

Without Batteries



The RECTIFILTER

- Eliminates batteries and expense of battery service at selected locations.
- Provides filtered noise-free D.C. output.
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- Automatically compensates for load changes.
- No moving parts—entirely automatic.
- Change of power source in case of A.C. failure optional feature.

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pany and the Inter-Mountain Telephone Co., which operates in east Tennessee, authority to post bond and raise intrastate toll rates to a par with those of Southern Bell Telephone & Telegraph Co.

Southern Bell won the right to raise rates in a decision rendered earlier in September by the State Court of Appeas. Refunds will be made from the bond that was posted if the decision is reversed by the Tennessee Supreme Court.

V V

Allows Increased Rates for SW Bell in Texas City, Tex.

Higher rates for the Southwestern Bell Telephone Co., in connection with its plans for conversion to dial, were recently approved by the city commission of Texas City, Tex. There is no state regulatory commission in Texas.

The increases, effective Nov. 1, include: *Business*—straight line, $6.50; extension, $1.25. *Residence* — straight line, $3.00; two-party, $2.50; four-party, $2.25; extension, 75 cents. *Rural* —business, $4.00; residence, $2.25.

Other proposed changes include the incorporation of the Texas City and La Marque exchanges and the elimination of the toll charge for calls between the two points.

V V

Bans Use of Telephone Lines To Transmit Racing Results

Patrons of taverns, beauty parlors, chain stores and similar places in Illinois no longer will be able to hear broadcasts of horse race results.

The Illinois Commerce Commission ruled Sept. 16 that companies which lease telephone wires to transmit music cannot use those facilities to broadcast racing information.

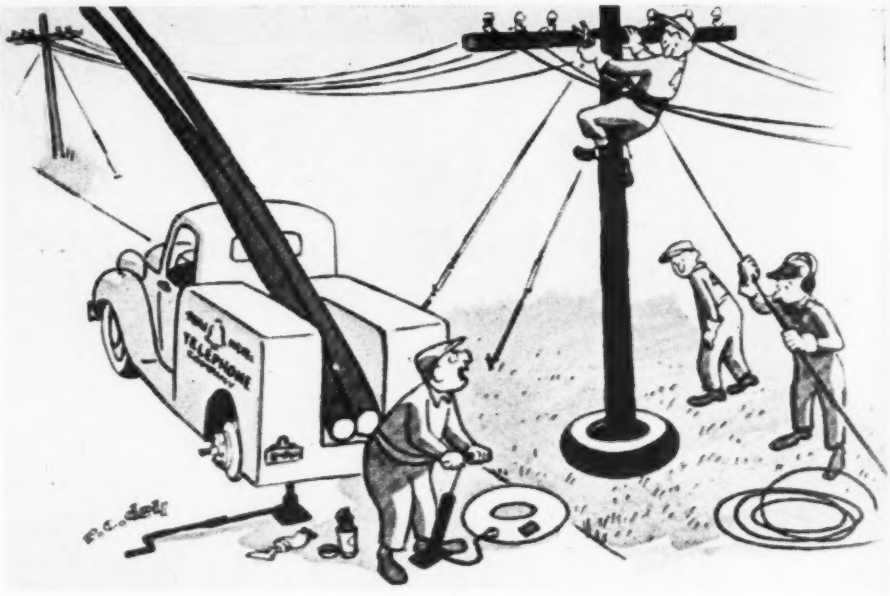
The action was requested by the Illinois Bell Telephone Co., which charged that the United Sound Systems & Wire Service, Inc., had allowed racing results to be announced between songs piped into their clients' buildings.

The ICC order makes it possible for the Bell company to break its contract for a leased wire if racing information is broadcast.

V V

Commission Approves $60,000,000 Bond Issue of N.W. Bell

The Nebraska State Railway Commission has approved the application of the Northwestern Bell Telephone Co. for authority to issue $60,000,000 of debenture bonds. The proceeds will be used to retire notes representing advances from the American Telephone & Telegraph Co.



"I wish you jerks would watch what you're doing!"
(Courtesy, Ford Truck Lines)

The United States National Bank, Omaha, is named as trustee under an indenture which permits the company to designate whether the bonds will have a 30 or 45-year maturity. The offering will be made in the form of an invitation for sealed written bids and will be sold for cash at a sale pursuant to competitive bidding, the interest rate and purchase price to be fixed by the successful purchaser.

V V

Minnesota Sales Approved

The Minnesota Railroad & Warehouse Commission recently approved the sale by the Tri-County Cooperative Telephone Co., Hamburg, of certain telephone properties in the village of Plato to the McLeod County Telephone Co., Glencoe, and the purchase of the Littlefork (Minn.) Telephone Co. by the Littlefork Commercial Club.

V V

Hearing Date Postponed

An application of the Hickory (N. C.) Telephone Co. for permission to increase its rates has been postponed by request of W. A. Carpenter, general manager (TELEPHONY, Sept. 11, p. 29). The new hearing before the North Carolina Utilities Commission will be on Oct. 15.

V V

Summary of Commission Rulings and Hearings

Kansas Corporation Commission

Oct. 1: Hearings on applications of American Telephone Co., Abilene, for permission to install dial service at its Rexford exchange and common battery service at its Mound City exchange, and to file new rate schedules when the new service is established.

Oct. 4: Hearings on rate applications of Mijo Telephone Co., Spring Hill, for its Spring Hill and Stillwell exchanges; of the Tri-County Telephone Co. for its Parker, Greeley and Rantoul exchanges; and of the German-American Telephone Co., Victoria.

Oct. 15: Hearings on applications of American Telephone Co., Abilene, for rate changes at its Alma, Luray, Lyndon, Troy, Wathena, and Westmoreland exchanges.

Oklahoma Corporation Commission

Sept. 21: Continued hearing on application of Wayne residents for increased automatic dial service from the Southwestern States Telephone Co., Brownwood, Tex.

Sept. 23, Oct. 15, Nov. 12, and Dec. 29 and 30: Hearings on evidence contesting application of Southwestern Bell Telephone Co. for increased intrastate exchange rates in Oklahoma.

Oct. 1: Continued hearing on application of Southwestern Bell Telephone Co., Southwestern Associated Telephone Co., Lubbock, Tex., Southwestern States Telephone Co., Brownwood, Tex., and Oklahoma Telephone Co., Broken Arrow, for continuance of rules similar to those of expired federal regulation U-2 governing order of service installation.

Oct. 1: Hearing on application involving boundary lines between territory of the Southwestern Bell Telephone Co.'s Tulsa exchange and the Oklahoma Telephone Co.'s exchange at Broken Arrow.

Nov. 9: Continued hearing on application of Moore residents requesting adequate service from Southwestern States Telephone Co., Brownwood, Tex.

Wisconsin Public Service Commission

Sept. 22: Hearing on application of Franksville Telephone Co., Raymond Center, for authority to increase rates and to file standard operating rules.

Sept. 24: Hearings on applications of Forestville (Wis.) Telephone Co. and Hull Telephone Co., Abbotsford, for authority to increase rates.

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OCT. 11, 12, 13, 1948

SHERRON METALLIC CORP.

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QUESTIONS AND TENTATIVE ANSWERS

GENERAL—Continued

(19) Will a larger size all-purpose battery or a separate battery exclusively for radio operation be required?

A. Provision of proper battery supply is a responsibility of the customer. The size battery he needs for his radio-equipped vehicle will depend upon his usage of the vehicle and the radio-telephone. Assuming that the radio is to be left on for eight hours daily, then the standard size battery may give perfectly satisfactory service if the vehicle is being driven most of the time and is operated at moderate or high speeds, provided that sub-zero temperatures are not encountered. If driving is principally at low speeds, as in congested traffic, or if the vehicle is parked for long periods with the radio in operation, additional battery capacity will be required.

Under the most severe operating conditions, where the radio runs all day, the battery must be charged at night because the total driving time is insufficient to keep it fully charged. About 100 ampere-hours additional capacity will be required. The battery generally found in passenger automobiles is the SAE size 2-H, so that at the time the radio installation is made this battery would normally be replaced with the SAE size 5-H when an additional capacity of 60 to 100 ampere-hours is required.

It appears feasible to operate two 2-H batteries in parallel, although this practice is not recommended except in unusual situations where it is impossible to install one unit as large as the 5-H battery. When batteries are operated in parallel, the following requirements should be met for best operating results:

(1) Batteries should be identical in manufacture, capacity and age.

(2) They should be installed at the same time and removed at the same time.

(3) The resistance in the charging circuit, from the generator through one battery and back to the other side of the generator, should be the same as the resistance from the generator through the other battery and back, in order that the batteries will share the charge equally.

(4) The resistances in the two load circuits from the batteries to the radio equipment should also be equal so that the batteries will share the load equally.

More maintenance is involved where two batteries are used, since six cells must be watered instead of three. Also, contacts should be inspected and cleaned regularly to keep all the circuit resistances balanced.

A separate battery exclusively for the radio equipment would require a separate generator to keep it charged. If space is available for an extra battery and generator, the cost of a separate electrical system would appear to be warranted in applications requiring the utmost in reliability, as in ambulances and fire engines. With such a dual electrical installation, the vehicle can be started even though the radio battery may be completely dead, and a few minutes driving time should suffice to bring the dead battery up to a point where the radio receiver would function normally.

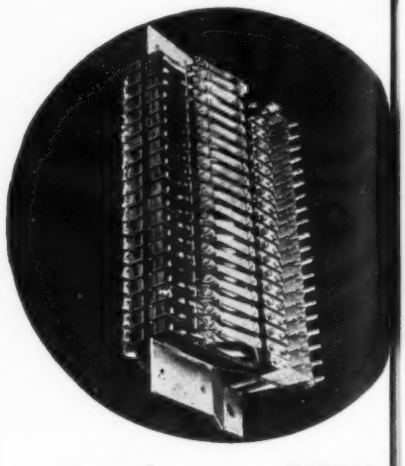
• • •

(20) What space is required for the equipment which will be placed in the mobile unit?

(A) Equipment has not yet been standardized, but in the different makes currently available the transmitter, receiver and a selector unit occupy from 2.6 to 5.4 cubic feet of space and weigh from 75 to 100 pounds. Dimensions and weights of individual apparatus units will be furnished by the respective manufacturers. A fuse would also offer some protection to the radio equipment and would tend to minimize the fire hazard in the event of a wiring fault, although it must be realized that a fuse large enough to carry the radio load (60-ampere fuse would be required for most installations) would be large enough to sustain a fairly heavy arc and would also be too heavy to afford protection to the radio equipment against any but the most severe overloads.

". . . I'm going to hang up, Henry. There must be a bad connection — I can't hear a word you're saying . . ."

STROMBER



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central office protecto

Combines cable termination with prote
of central office personnel and equip
against high potentials and sneak cur
In operation, it opens the switchboard ci
grounds the outside line, and operate
alarm circuit. Note these construction an
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2. Self-soldering, low-resistance heat co
easily reset after operation witho
changing, reversing or re-solderi
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3. Line and switchboard connections
opposite sides of protectors.
4. Steel mounting plate for maxim
strength.
5. Unit dischargers, consisting of t
carbons, separated by acetate diel
tric cemented together, permaner
grounds the outside line under c
tinuous discharge.
6. Easily tested without removing h
coil; withdrawal of test plug lea
protector in operating condition.

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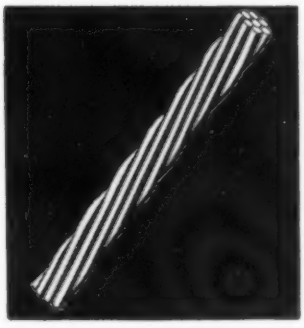

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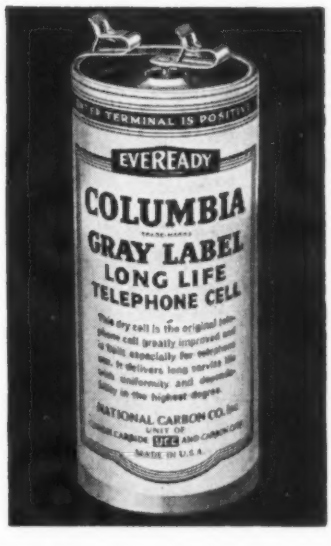
Made by the makers of "Eveready," "Air Cell" Operators' Transmitter Batteries.

The quality cell preferred by telephone engineers



build for permanence and economy *with poles bearing this trade-mark*

The T. J. Moss Tie Company's creosoted southern yellow pine poles are time-proven.

Every pole is full-length pressure-treated in accordance with American Wood Preservers' Association specifications.

MTC

The Stamp of Character

FOUNDED 1879

ER CARLSON FACTORY, GENERAL OFFICES: ROCHESTER 3, N. Y.

CHICA AS CITY 8. SAN FRANCISCO 3; IN CANADA: STROMBERG-CARLSON COMPANY LTD. TORONTO

STROMBERG Telephone CARLSON

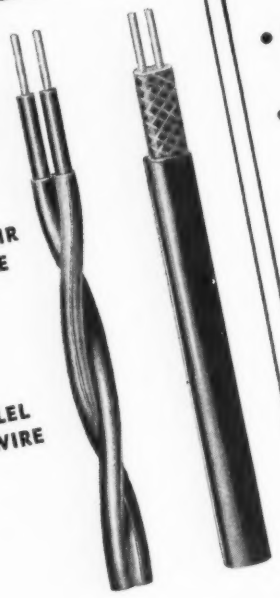
ENDURANCE

TELEPHONE WIRES

GENERAL INSULATED WIRE WORKS, INC.

ENDUR-PRENE MEANS

ENDURANCE PLUS



TWISTED PAIR DROP WIRE

PARALLEL DROP WIRE

- BEST WEATHERING CHARACTERISTICS IN ALL CLIMATES
- POSITIVE RESISTANCE TO OIL AND CHEMICALS
- FREEDOM FROM FRAYING AND ROT
- FLEXIBILITY AT ALL TEMPERATURES
- GREATER ABRASION RESISTANCE
- VERY HIGH TENSILE STRENGTH

Samples of Endur-Prene drop and bridle wires are available —wire or write today.

OUTSIDE WIRES—Drop, bridle and tree—sizes 14 to 22—B&S, bronze, copperweld, copper and iron conductors, rubber insulated, cotton braided.

INSIDE WIRES—Sizes 19 to 22—B&S with rubber insulation, cotton braided or plastic insulated.

Plastic insulaton is particularly adapted for inside jumper and duct wires, has bright colors for identification, smaller diameters, is flame and moisture proof, offers high resistance to abrasion and will not support fungus growth.

GENERAL INSULATED WIRE WORKS, INC.

DISTRIBUTED BY
Kellogg Switchboard and Supply Company
Chicago, Illinois

GENERAL INSULATED WIRE WORKS, INC.

69-105 Gordon Avenue Providence 5, Rhode Island

Telephone—Hopkins 2100

Tennessee Independents Hold Convention

Moving the setting of its annual conventions from Nashville to the western part of the state in order to attract attendance from a greater number of small telephone companies, the Tennessee Independent Telephone Association drew a larger group of Independent company representatives than heretofore at its 11th annual convention held in Jackson on Sept. 9.

In his annual report Secretary-Treasurer Earle Blomeyer reported a gain in the association's membership and urged all Tennessee Independents to join the organization.

W. S. Argabright, Kingsport, president of the association, gave a resumé of the activities of the association, and particularly stressed the need for all telephone companies, especially the smaller ones, to place into effect higher rates in order to relieve, as much as possible, the financial problems facing most companies.

Others on the program were James Phillips of the Southern Bell Telephone & Telegraph Co., who spoke on the progress made by his company in meeting the demand for telephone service; W. E. Ballentine, Cookeville, who discussed carrier systems, and B. E. Byrngelson, who demonstrated the use of compression type sleeves for wire splicing.

Directors elected by the convention are J. W. Wray, Tracy City; J. L. Dickens, Unionville; Mr. Argabright, A. E. Reynolds, Bristol; J. N. Cox, Cookeville; H. W. Vaughn, Fayette, Ala.; L. C. Bryan, Rutledge; T. D.

COMING 1948 CONVENTIONS

United States Independent Telephone Association, Stevens Hotel, Chicago, Oct. 11, 12 and 13.

South Dakota Telephone Association, Cataract Hotel, Sioux Falls, Oct. 20 and 21.

The North Carolina Independent Telephone Association, Grove Park Inn, Asheville, Oct. 25 and 26.

South Carolina Independent Telephone Association, Wade Hampton Hotel, Columbia, Oct. 28 and 29.

Florida Independent Telephone Association, Orange Blossom Hotel, Sarasota, Nov. 8 and 9.

Virginia Independent Telephone Association, Roanoke Hotel, Nov. 11 and 12.

Missouri Telephone Association, Governor Hotel, Jefferson City, Nov. 15 and 16.

Odle, Parsons, and J. J. Moran, Cookeville.

The directors elected the following officers: President, Mr. Dickens; vice president, Mr. Odle and secretary-treasurer, Mr. Bloymeyer.

V V

Nebraska Association Holds Two Sectional Meetings

Upwards of 30 telephone companies were represented at each of the two sectional meetings held during the week of September 12 by the Nebraska Telephone Association. Sessions were largely of the round table discussion type and covered most of the pressing problems of the telephone industry.

Rising costs of labor and materials and supplies continue to affect the financial operations of telephone companies, and formed the chief subject for discussion. The recognition and consideration given increased operating costs by the Nebraska State Railway Commission in its various rate orders in the last eight or 10 months, it was felt, justified requests for needed relief, especially in view of the lack of objection by subscribers to paying increased rates in the present high price period at rate hearings.

Chief Accountant Vogt of the railway commission outlined the routine procedure followed by the commission in the handling of rate applications and other matters coming within its jurisdiction. With Association Secretary George M. Kloidy presiding, other matters presented covered the operation and extension of mobile and radiotelephone service, handling of depreciation and message recording. A representative of the Northwestern Bell Telephone Co. gave a demonstration of the latest recording devices.

Mr. Kloidy has been calling attention to the fact that a number of companies, because of having no knowledge of a 27-year-old commission order, have not been making any service charges in connection with the changing, moving or installation of telephone instruments. This order not only authorizes such charges but directs that they be made.

V V

Pole Falls; Injures Lineman

Eddie Strommer, lineman for the Granite Falls (Minn.) Telephone Co., suffered a broken back while working on a rural line. He had climbed the pole to loosen a guy wire and when he began working on the wire the pole toppled over carrying him with it. Jack Roe, working with Mr. Strommer, raised the pole from him and rushed him to the hospital.

New CHANCE 8-way Expanding Anchor

Another contribution to better anchoring

CLOSED POSITION

EXPANDED POSITION

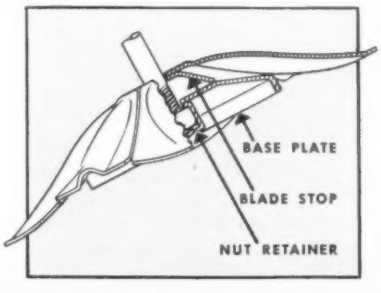
Here is another answer to the problem of rapidly rising line construction costs! The new Chance 8-way Expanding Anchor gives you more holding power for less money.

Better load distribution makes this new Chance Anchor stronger than other expanding anchors—and the absolute simplicity of its construction makes it the most smoothly operating expanding anchor on the market.

GREATER HOLDING AREA. Eight blades expand to form a square, with equalized load distribution all around the anchor. Each blade carries approximately one eighth of the load. There are no open areas between blades.

GREATER HOLDING POWER. The 8-way Anchor expands in the shape of a cone and holds like a wedge against undisturbed earth on all sides.

SIMPLE CONSTRUCTION. No moving parts, arms, or mechanical devices hinder the smooth operation of the 8-way anchor.



STURDILY BUILT. Each blade is formed with a reinforcing rib that prevents buckling. Hinges will not collapse under strain.

RETAINS SHAPE UNDER HEAVY LOAD. Repeated pull out tests show that the new 8-way Anchor develops more holding power under the same conditions than other expanding anchors of comparable size.

EASY, SURE EXPANSION. The pre-formed blades cut into solid earth with little disturbance and the pointed corner blades make starting easy. Linemen can tell when the anchor is fully expanded by the sound of the top plate hitting the bell-shaped blade stop.

BLADES ARE SUPPORTED BY BASE PLATE. They will not buckle down in the middle. The diagram, showing expanded position, illustrates how base plate supports blades.

NUT RETAINER, shown in diagram, makes it easy to push anchor to bottom of hole. The anchor rod and nut cannot be pulled through the base plate.

C4818

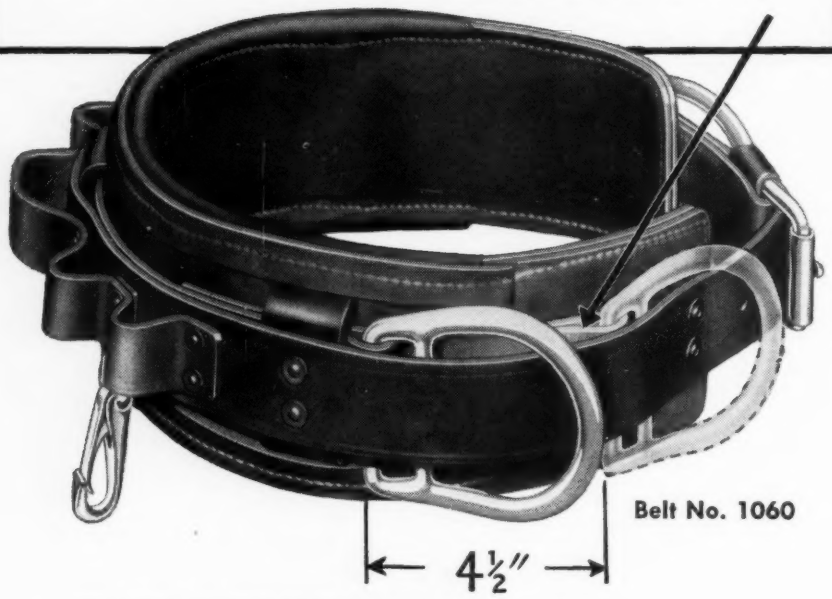
A·B·CHANCE CO·

CENTRALIA, MISSOURI • SAN FRANCISCO, CALIFORNIA

asc INDUSTRIES

See this *Completely New Anchor* at the U. S. I. T. A. Convention

Turn freely in this belt . . .



BUCKINGHAM *Glider* TOOL BELT

Yes, with this tool belt, you can turn up to 4½" right or left without binding your clothes or cramping your tools. That's because the Glider Tool Belt has a "floating" feature that allows fuller, freer body movement. Here's how: The middle belt, attached to the safety strap, does not move when you turn. The safety strap does not shift on the pole. The outer strap and inner liner slide easily without pulling or binding . . . without costly wear and tear on your clothing. Tool loops remain full and open. You can turn without tiresome, time-consuming shifting of your feet. You can change your position quickly, easily and safely.

And you can depend on the Glider Tool Belt for that all-important safety too. It's made of stout, tan-colored harness leather and stitched with tough nylon thread. It's built to the highest standards of quality to give you a good, dependable belt.

A BUCKINGHAM BELT is a good belt.

A BUCKINGHAM BELT is designed for comfort and ease of movement.

A BUCKINGHAM BELT is built to make safety a certainty.

BUCKINGHAM TOOL BELT NO. 1201

BUCKINGHAM TOOL BELT NO. 1201

A sturdy, practical tool belt built to give you years of comfortable, trouble-free service. Rolled edge leather lining. Inner belt is 4½" at back, tapering to 2½" at heel of dee ring. 2" belt strap has five tool loops and is fitted with harness ring, snap hook and tape thong. Inner belt has tab extended on each side. To these you can rivet any standard or special tool holsters or pouches.

See these tool belts at your regular supply house, or—write directly to us for Catalog 548 describing the full Buckingham line of equipment.

BUCKINGHAM MANUFACTURING CO., INC.
5-7 Travis Street Binghamton, N. Y.

AT&T Announces Reduction In License Contract Fees

Following discussions between officials of the American Telephone & Telegraph Co. and the Special Telephone Committee of the National Association of Railroad and Utilities Commissioners, the committee announced Sept. 18 that the AT&T has stated that, effective Oct. 1, and until further notice, the payments by the Bell associated companies for services rendered by the American company under the license contract will be reduced from 1½ per cent of the associated companies' revenues to 1 per cent on a slightly different revenue base.

Based on present revenues, this will reduce the current annual payment of about $35,000,000 by approximately $11,000,000.

The propriety of the payment of a percentage of revenues for license contract services has been the subject of considerable controversy in certain rate proceedings, and the committee met with the AT&T officials in an attempt to develop procedures under which the actual costs would be billed to each company for services rendered it. It was the position of the AT&T that a cost plan would be impracticable and that it would result in greater controversy.

Company officials stated that this substantial reduction should help to minimize controversy and it is the opinion of the NARUC committee that it should tend in that direction, the committee stated.

V V

Illinois Commercial Makes Changes in Managers

The Illinois Commercial Telephone Co., with headquarters in Springfield, Ill., has announced the appointment of two exchange managers.

Paul E. Wanstreet, formerly wire chief at Carbondale, Ill., has been named manager of the Du Quoin, Ill., exchange. He will replace Frank H. Simmons, Du Quoin manager since 1934, who will be promoted to a supervisory capacity elsewhere, the company said.

Orville Schureman has been appointed manager of the Carbondale, Ill., exchange, succeeding Thomas Grant who has been made area commercial supervisor for the new northern Illinois area with headquarters in Belvidere.

V V

Elected Secretary-Treasurer

R. A. Maybury of Lexington, Ky., has been elected secretary-treasurer of the Kentucky Independent Telephone Association, according to a recent an-

nouncement, to fill the unexpired term of W. H. Thomson, who has joined the Southwestern Associated Telephone Co., Lubbock, Tex.

V V

Subscribers Turn Out To Rebuild Lines

Because the poles and wires were sagging, because some of the instruments had been in use since 1904, and the company had no money for labor, the 125 subscribers of the Mifflin & Widowville Telephone Co., Mifflin, Ohio, turned out for two days recently to build new lines.

The company serves Mifflin, Hayesville, Widowville and Vetsville in Richland and Ashland counties of Ohio.

At noon on both days wives of the "free" laborers, most of whom were farmers, served lunch in a Mifflin church. The subscribers paid for their lunch, too, the profits going to the church guild.

It was this scheme or nothing, said Gilmore Hiett, industrial advertising executive and president of the telephone company. "Through their own petition the subscribers obtained a higher rate from the Ohio Public Utilities Commission on Aug. 4. They had been paying $1.00 a month; now they pay $2.25.

"The increase bought the improvement materials but we had no money for labor. The subscribers cleared away brush, dug pole holes, put up the poles and strung the wire."

The company is operated for profit, but Mr. Hiett explains that profit is far in the future. "We're looking for service now."

V V

Seattle Operator Turns in Fire Alarm in Aberdeen, Alaska

A quick-witted Seattle, Wash., telephone operator, monitoring a long distance Aberdeen-Juneau, Alaska, telephone call turned in an Aberdeen fire alarm recently.

The blaze, at a printing company, caused several thousand dollars damage before being controlled.

Kearny Clerk, owner, was working at a linotype machine when the fire broke out in a corner of the second floor shop.

John Forbes, an associate, was talking long distance to his wife at Juneau. He immediately broke the connection, and then picked up the receiver to call the alarm.

The Seattle telephone operator was still on the wire and she quickly transferred the alarm through the Aberdeen telephone office to the fire department at Aberdeen, only two blocks away.

Crapo
Galvanized Steel
CABLE LASHING WIRE

Widespread adoption of the "spinning" method of cable suspension has brought increased demands for a superior and consistently dependable lashing wire.

Crapo Galvanized Steel Lashing Wire (.091 inch diameter) has been developed specially to fill these demands. It is manufactured from selected steel, is carefully processed and is given a heavy zinc coating for longer life. The finished wire conforms, in every respect, to the exacting specifications of leading telephone engineers—for ductility, tensile strength, torsion and galvanizing.

Crapo Galvanized Steel Lashing Wire is put up in neat, compact, thread-lay coils for ease in handling. For use in modern cable-spinning machines. Packed in cartons containing 6 coils, each coil containing approximately 325 feet of wire.

☆

"STAINLESS STEEL"

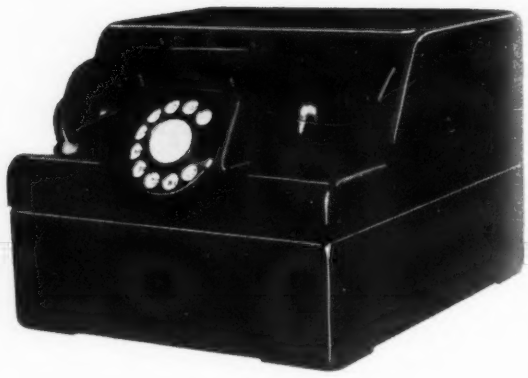
Crapo Cable Lashing Wire also can be supplied in "Stainless Steel" (.065 and .045 inch diameter). Complete details will be forwarded upon request.

Contact your jobber of *Crapo* Galvanized Telephone Wire and Strand or write direct for further information!

INDIANA STEEL & WIRE COMPANY · MUNCIE, INDIANA

PEATROPHONE

"The Mechanical Secretary"



Made in two types—one complete with built-in telephone instrument; the other adapted to use existing telephones.

The only device that answers the telephone in the subscriber's absence and records any incoming message the calling party wishes to leave. Repeats all messages when the user returns to his instrument.

Records two-way conversation. Plays back recorded messages over the line and complies with all F.C.C. requirements.

PEATROPHONES require 110V. A.C. Consume less current than a radio set. Use records that cost one-quarter of a cent per message.

PEATROPHONES prevent "Don't Answer" calls. They are furnished only through telephone operating companies and are not for sale direct to the subscriber. They require no change whatever in existing equipment or operating procedure.

PEATROPHONES eliminate many uncompleted toll calls as the subscriber can leave a message on the PEATROPHONE so that when the toll operator calls she will know where to reach the subscriber.

PEATROPHONES mean increased revenue and better service, and your subscribers welcome PEATROPHONES as giving them 24-hour answering service as well as recording service at minimum expense.

See PEATROPHONES at the Convention and ask for information respecting our leasing plan.

TELEPHONE ANSWERING AND RECORDING CORPORATION
342 MADISON AVENUE **NEW YORK 17, N. Y.**

Eliminate **INSULATOR BREAKAGE FROM YOUR COST RECORDS**

● Do not tolerate the constant cost of replacing glass insulators. Stop it all with Western Union Rubber Insulators. Designed, tested and used by Western Union and fabricated by Continental, these insulators have demonstrated their trustworthy performance under the severest conditions. Their natural resilience guards them against the weakening effect of wind sway and they have the inherent strength to "take the load" on sharp angle turns. You'll be greatly interested in the complete story—write for the special descriptive bulletin.

MANUFACTURED EXCLUSIVELY BY
CONTINENTAL RUBBER WORKS
ERIE · PENNSYLVANIA · U. S. A.

Small Alabama Company

(Continued from page 37)

tomers will get the idea that either you have bought inferior equipment or that you do not know what you are doing, and your new system will be given a black eye before it has a chance to prove itself. Too many have heard this from their subscribers, "For goodness sake, let's have the old telephones back—at least I could talk over them!"

There have been listed above a good many do's and don'ts, but they were the rules that the Southland tried to follow, and the results of following them have been good.

Step 3. New Central Office Equipment. After the outside plant has been taken care of, the next step is the central office and the telephones. The CO equipment comes first. The opening question is: New magneto, dial or common battery? The answer is: It depends. In very few places, even the so-called wide spots in the road, is magneto any longer desirable. People travel now and they see the good systems of the larger places, and rightly or wrongly, they want it in their community. You will not be able to flaunt "No" in the face of public demands forever. Sooner or later you will have to install an improved system, and as far as the Southland was concerned, magneto was never even considered. It was then: Dial or common battery? Again, the answer depends. On what? Primarily, on the size of the exchange and the size it is expected to grow into; secondarily, on such matters as labor supply, the going local labor rate, public opinion, the amount of capital you have to invest, availability of qualified maintenance men, and any other local considerations. But, most important, it is the size and expected size which govern the decision. The Southland figured that it could operate more economically, up to 2,000 stations, on common battery, and past 2,000, on dial. At the time of the figuring, it seemed a remote possibility that the 2,000 mark would be passed before 15 to 20 years.

The company was in a position where it would have been foolish to have given up its toll operating to some other company (and a good share of its toll revenue). Information and toll operating would therefore still have been necessary even with local automatic switching, and the depreciation, carrying charges and maintenance on

no more worries for me

...now that

KOPPERS CREOSOTE

is plentiful again!

IF you need creosote for pressure-treating wood, just send an SOS to Koppers, and we'll ship your requirements. And you'll look just as happy as the man above, because you'll get the same high-quality Koppers Creosote you've always known.

When you order Koppers Creosote (or Koppers Creosote-Coal Tar Solutions), it's important to remember that you're getting products that have decades of dependable performance behind them . . . that have established enviable records as wood preservatives everywhere.

Send in your order now. And if you want to *play safe*, ask about Koppers yearly contracts that take care of your future needs.

KOPPERS

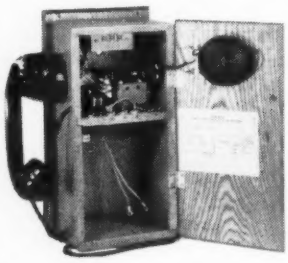
All Standard Specifications
For All Types of Wood Preservation

KOPPERS COMPANY, INC.
Pittsburgh 19, Pa.

BE SURE

you are sure of quality, service and subscriber approval with these guaranteed products.

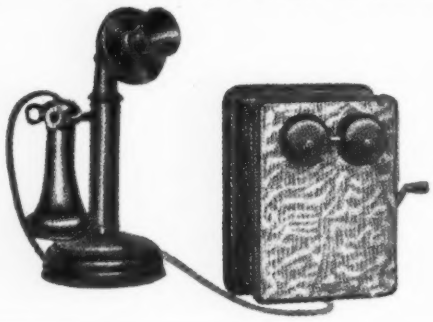
New Bantam Magneto Telephones



Battery space built in yet requires only 13"x15" of wall space. Handset of latest design with sealed type transmitter and receiver capsules for high quality transmission and trouble free service.
Anti-sidetone circuit with condenser.
Alnico Generator.
Bantam is serving thousands of independent subscribers.

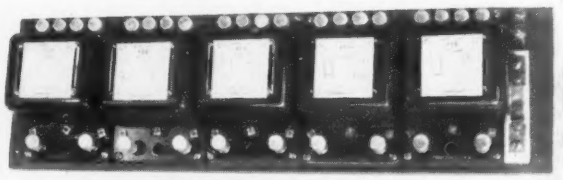
Price: 1600 ohm $28.00
2500 ohm 28.50

"Like New" Desk Stands and Ringer Boxes



Kellogg Desk Stand with transmitter, receiver and new cords.
Ringer Box with Alnico Generator, Induction coil and ringer in fine, new oak cabinet.

Price:
1600 ohm, per set. $18.20
2500 ohm, per set. 18.70



Dan Mac Kick Coils provide modern private line service thru magneto switchboards with C. B. telephones.

Price: Single coil, each .....$ 4.00
Strip of 5 fused and wired, each..... 23.50

Dan Mac Conversion Kit

Modernize old style wall telephones in a few minutes. Kit complete with handset, switch hook saddle, transmitter cover plate and all screws.

Price: New, each $8.95
"Like New," each 7.25

"Like New" Dials for Desk Stands, Handset Mountings and Wall Telephones

Price: Each $4.50

HARDWARE — PROTECTION EQUIPMENT — BATTERIES
All kinds of wire. We are distributors for a complete line and provide a complete service. Try us.

TELEPHONE REPAIR & SUPPLY COMPANY

DANIEL H. McNULTY, *President and Manager*
1760 Lunt Ave. Chicago 26, Illinois

the added investment was figured to more than offset the comparatively small labor saving. The break even point was figured roughly at 2,000 stations. Other companies have estimated this to be as high as 3,000 stations, but the indications are that, somewhere within that range, depending upon local conditions, is the point at which dial becomes more economical.

(NOTE.—There is another size exchange that can well afford dial—the small exchange with less than 200 or 300 stations. Exchanges of this size have such a small gross revenue that it is next to impossible to pay adequate wages to operators for service 24 hours per day, seven days per week. This size of exchange can be operated profitably by community dial, with trunks in to a nearby toll board for long distance and information.)

The Southland, following its figures, purchased a common battery board of sufficient ultimate capacity to serve the company up to the break even point. The building in which the new board was housed had been built with the idea of providing enough room, without moving either the board or the main frame or the relay rack, for the ultimate capacity of the board. The board was a Kellogg Masterbuilt 12-1600 (1,600 line capacity on a four-panel basis, and the four-panel basis was used to assure the ultimate without multiple changes).

Answers to Questions on Page 56

(1) Yes. Some telephone companies do pay the operator's transportation cost when she is working a late evening trick.

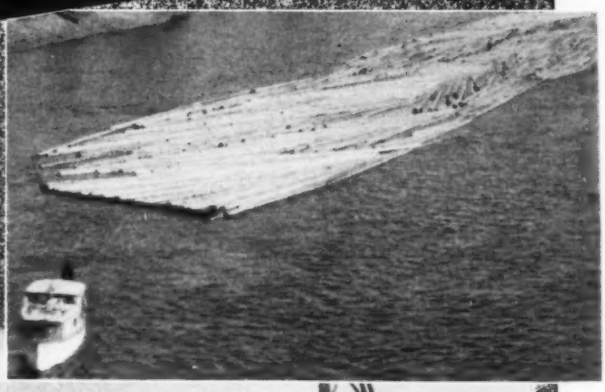
(2) These calls should be counted as incoming calls.

(3) Peg counts of toll traffic are essential as basic records from which equipment and force requirements are determined and through which traffic costs are controlled.

(4) Generally speaking, it is not necessary to make a toll peg count in the tributary office under this condition.

(5) The word "Please" should be used when you ask a customer to do something, as, "Will you give me the number again, please?" The word "Please" should not be used when you ask directly, "What was that number?" or, "Do you know the number?"

POLES BY WATER, TRUCK AND RAIL



A steady stream of the finest Western Red Cedar, Northern White Cedar, and Western Pine Poles flow toward Mac Gillis and Gibbs Company Plants at

Minneapolis, Minn.
Gladstone, Mich.
White Sulphur Springs, Mont.

Butt or Full Length Creosote Treated

Recently Equipped to Treat with Pentachlorphenol

SECURE PRICES FROM
One of the Oldest Names in the Pole Industry

THE MAC GILLIS AND GIBBS COMPANY
324 E. WISCONSIN AVE. MILWAUKEE 2, WISCONSIN
Also from Kellogg Switchboard & Supply Company, Chicago, Illinois

These Bonds were placed privately through the undersigned with institutions purchasing them for investment. They are not offered for sale and this announcement appears as a matter of record only.

NEW ISSUE

$5,500,000

Mutual Telephone Company
(Territory of Hawaii)

First Mortgage 3¼% Bonds, Series F

Dated August 15, 1948 Due August 15, 1978

Price 100.96% and accrued interest

Kidder, Peabody & Co.

September 14, 1948.

THIS AD IS WORTH $10,000 TO YOU

One of our subscribers recently told us:

"We could not have bought the good will that we gained through your advertising and public relations service for $10,000."

And he's right. You can't buy good will. But you can earn it when you fairly and honestly tell your service story to your customers. Your most important highway to this good will is through a sound advertising and public relations program.

That's what we mean when we say this ad is worth $10,000.

Learn more about it by coming to our display at the USITA national convention.

Be convinced of the value of advertising . . . we have examples by the dozens!

Be sold on what Telephone Advertising Institute can do for you . . . we have testimonials by the hundreds!

The Institute is now in its fifth year of operation, and has a long list of satisfied subscribers.

If you're already using our service, you may have suggestions to make or problems to discuss. You're welcome, too!

TELEPHONE ADVERTISING INSTITUTE

326 West Madison Street
Chicago 6, Illinois

Universal cord circuits and line circuits were specified, in order to achieve the following results:

(1) That the magneto telephones would not have to be changed out concurrently with the cut-over of the switchboard or provided with condensers, but could be changed out one at a time as they stood. This held down initial cut-over trouble and gave the company a chance to make the transition gradually and smoothly, and required only one visit to each customer's premises.

(2) All three of the initially installed and equipped positions could handle long distance, and on any cord pair. (Subsequent positions will be "Feature" or local operation only, with recording trunks to the toll positions for long distance calls.)

For its central office building, the Southland decided upon a one-story brick and tile, cement-floored office, on the main shopping street and almost in the exact cable center of the town. The new office was one-half block from the old office, so the cables had to be half-tapped and run into the new office through underground conduit into a cable vault built into the floor of the frame room (see pictures on page 35).

The choice of site, type of building, size of building, and cost are matters that should come in for serious consideration. Floor plan is very important, with primary emphasis on ease of expansion. Protection from moisture, dust and fire must receive careful thought. All the good advice you can get and all the visiting to other similar offices you can do will be time well spent. A mistake in a cable or in a pole route is costly but not disastrous —one in the central office is much more serious.

Let it again be pointed out that this is a recording not of *the* way to do the job, but of the way one company did it. It may well be that some companies, much smaller than 2,000 stations, would be well advised to turn to dial—the local situation is the determining factor. The point is that there is a rather startling difference in cost between dial and common battery, and the Southland believed that the one should be chosen that would return the company the largest *net* profit, over a number of years, on the lowest exchange rates.

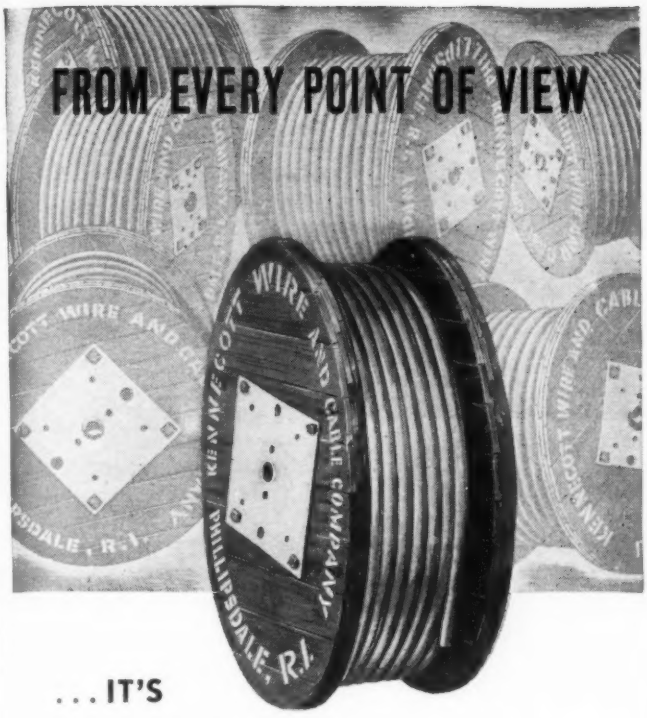
Step 4. Replacing All the Old Telephones. If the cut-over is to dial, the changing of telephones will have to be made concurrently with the cut-over of the central office equipment. If common battery, it can be done as the Southland did it. The method used proved very satisfactory. The chances are that if the cut-over from magneto to common battery is made 100 per cent at one time, there will be an unusual and serious amount of trouble which may take days or even weeks to clear. Doing it one telephone at a time gave the company a chance to clear each case of trouble as it arose (for a few cables and drops broke down under the constant voltage in spite of all the trouble that had been taken to avoid it). Some 500 telephones were changed out within a period of six weeks after the central office was cut over. This permitted the regular crew to do the work rather than having to hire a large number of outsiders for a short installing spree, another distinct advantage.

At this point a parenthetical note should be made. When the cut-over of equipment and changeout of telephones had been completed, the company held open house and invited the town to come in and see what it was all about. On opening morning, flowers came crowding in. An exhibit was set up in the manager's office showing how the full selective ringing on party lines worked. Another exhibit was set up in the operating room showing a position of the old switchboard and some of the old telephones and set off with posters from the *Telephone Advertising Institute* (see pictures on page 36).

A chart showing the growth of the company was prominently displayed. These exhibits, together with the complete operation of the office, the switchboard, and the frame room were explained in detail to each group of visitors that came in. The building was crowded from after 9 o'clock in the morning until after 9 o'clock that night, when the local Lions Club, which visited the opening en masse, had departed. From every viewpoint, it was one of the most successful public relations efforts that the company has made.

Step 5. Concurrently with the First Four Steps, to Provide Additional Service as Fast as Possible. The Southland has followed this step with much effort, but it was subordinated to the other four steps from the beginning. The amount of emphasis given to this step depends largely on the local insistence for more service. In Atmore, the demand was strong and has been continually getting stronger as time goes on. Providing new service as fast as possible gains two principal objectives: (1) It proves to the public that something is being done about the situation. After all, a man who has no service at all would rather you gave him some kind of service than improve his neighbor's service (although the neighbor may think differently); (2) it provides additional revenue for the company.

Following is the Southland's growth experience:



. . . IT'S

KENNECOTT for cable!

No matter what features are especially important to you in telephone cable construction, you can be sure they will receive careful attention in the manufacture of Kennecott Cable. Every effort is constantly being made to insure cable of good quality.

For further information on Kennecott Telephone Cable, just write or telephone the Chase Office nearest you. See list below.

Chase Brass & Copper Co. is an affiliate company of Kennecott Wire and Cable, with 25 sales offices (22 of them warehouses) in leading industrial centers from coast to coast.

CHASE BRASS & COPPER CO.
—INCORPORATED—
WATERBURY 91, CONN. • DISTRIBUTOR FOR

KENNECOTT WIRE & CABLE CO.

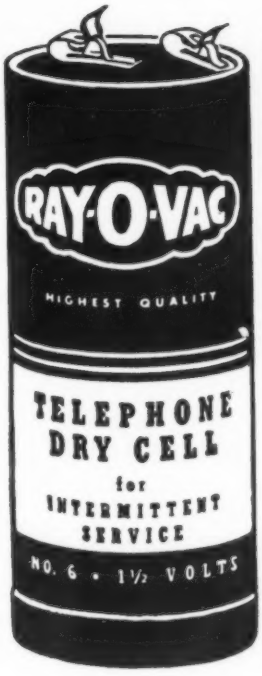
SUBSIDIARIES OF KENNECOTT COPPER CORPORATION

ALBANY† ATLANTA BALTIMORE BOSTON CHICAGO CINCINNATI CLEVELAND DETROIT HOUSTON† INDIANAPOLIS KANSAS CITY, MO. LOS ANGELES MILWAUKEE MINNEAPOLIS

NEWARK NEW ORLEANS NEW YORK PHILADELPHIA PITTSBURGH PROVIDENCE ROCHESTER† SAN FRANCISCO SEATTLE ST. LOUIS WATERBURY

†Indicates Sales Office Only

For long-lasting performance that cuts replacements and keeps down your operating costs . . .



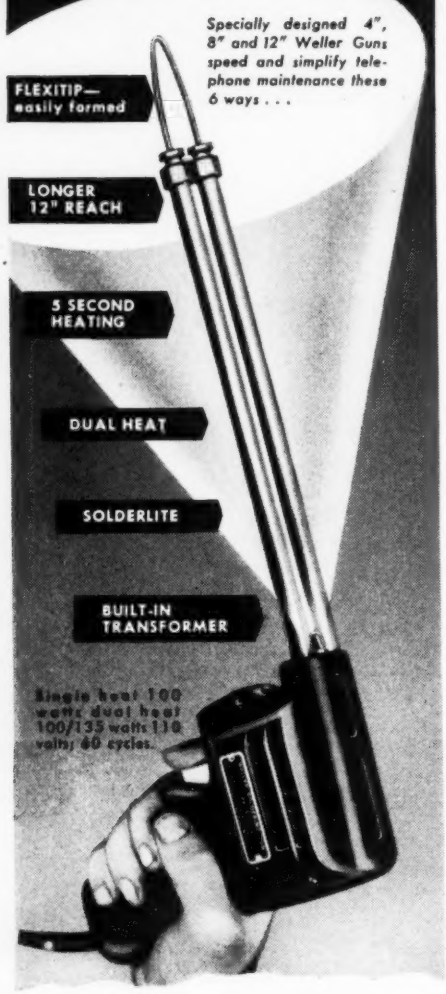
Rely on Ray-O-Vac!

That goes for Ray-O-Vac Leak Proof Flashlight Batteries, too. *Sealed in steel* and specially insulated to lock in the power, and to prevent leaking, corroding, and sticking. Store them without worry about inventory loss . . . they stay fresh for years. Remember, when you buy—specify Ray-O-Vac!

Guarantee: If your flashlight is damaged by corrosion, leakage, or swelling of this battery, send it to us with the batteries and we will give you FREE a new comparable flashlight with batteries.

RAY-O-VAC COMPANY, Madison 3, Wis.
RAY-O-VAC, LTD., Canada, Winnipeg, Man.

"LONGER REACH"
WELLER SOLDERING GUNS
make short work
of multiple maintenance


Specially designed 4", 8" and 12" Weller Guns speed and simplify telephone maintenance these 6 ways . . .
FLEXITIP—easily formed
LONGER 12" REACH
5 SECOND HEATING
DUAL HEAT
SOLDERLITE
BUILT-IN TRANSFORMER
Single heat 100 watts dual heat 100/135 watts 110 volts 60 cycles.

L-o-n-g-e-r reach slides the easily shaped *Flexitip* through multiple wiring like a shadow. Prefocused *Solderlite* spotlights the work clearly. Five-second heating saves time and current on every job.

From tip to grip, the Weller Gun is better, safer. Completely encased in rugged, self-insulating plastic, it has an exceptionally high safety factor (100,000 megs insulation resistance from line to tip). And because the dependable transformer is built in—not separate—the gun is compact, convenient, safeguarded against overheating. Heat just can't come on until you pull the trigger. Retinning or redressing is unnecessary when properly used with genuine Weller Tips.

For telephone multiple maintenance, both the 8" model (DX-8) and the 12" model (DX-12) generate 100/135 watts dual heat. Standard 4" models—S-107 single heat, and D-207 dual heat also available. Your telephone-supply or radio-parts distributor handles Weller Soldering Guns. See him—or, for more information, write direct for catalog.

WELLER
MANUFACTURING COMPANY
814 Packer Street · Easton, Pa.

Year	No. Stations on Dec. 31
1942	310
1943	375
1944	410
1945	499
1946	635
1947	716

By February, 1948, the first five steps of the program had been virtually completed. The company is now in the midst of the sixth and last step, and probably will be for several years to come, as there seems to be little possibility of reducing the held order situation to zero anytime in the near future.

Step 6. Expanding the Scope and Area of Service. Since the completion of the first five steps in the program, the Southland has concentrated on getting in as many additional telephones as possible, again with the same two-fold purpose as above, with the following results:

Period	Station Gain	Average Gain Each Six Mos.
1943-47	406	40.6
1st 6 mos. 1948	174	174.0

The total number of stations in service July 1, 1948 was 890, or a 184 per cent gain over 1943. It is now expected that within three more years, the total will go to 1,400 or 1,500 stations, and will then level off to follow the actual growth of the city (for in the past five years, the Southland has ceased operating in a town and begun operations in a city).

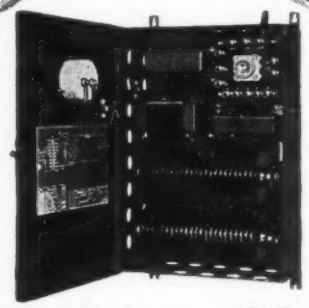
Much of this future growth will come from two points, the agricultural area surrounding the city, and the colored population of the city. *Both of these types of installations, contrary to the belief of some companies, have proved to return, on the average, as much revenue as any other type of installation.*

Again, such a decision must be based on local considerations, but the Southland's experience has been that unless there is an almost overpowering reason to act otherwise, the service should be furnished. Rural lines especially are costly, but it has appeared to the Southland that it cannot afford to forget the rural areas. Somehow or other, and sooner or later, these people will have telephone service, and it was thought that the established company in the area should have the responsibility and privilege of serving these customers. Iron wire is the same with the Southland as it is with almost everyone else—it just almost can't be had. But the Southland has made a good start, and intends to complete its rural program.

The plan, and its application, have been presented in considerable detail.

★ ELECTROX
★ Trade Mark Reg. U.S. Pat. Off.
DEPENDABLE
RECTIFIERS

Designed and made
by TELEPHONE MEN
for TELEPHONE MEN



Battery Chargers - All Types

Automatic chargers. Trickle chargers. For all telephone service. All capacities – 1 to 12 amperes; 24 to 48 volts. Other capacities available to meet individual requirements.

Battery Eliminators - All Types

For all telephone service. For Lamp Signal (PBX), and Automatic (PAX) Systems. With or without Power-off Relay. Capacities of 0.5 to 6 amperes, from 12 to 48 volts.

Write for Circular 1462
Order from Your Jobber

ELECTROX DIVISION
THE SCHAUER MACHINE CO.
2056 Reading Road - Cincinnati 2, Ohio

There were three basic ingredients which have not been mentioned and which should be recognized. These were *experience, adequate records* and *sound financing;* and in varying degree, they have all proved indispensable.

As to *experience,* it probably will have been recognized that many of the practices of the Southland to date could not have resulted from only the experience gained during the conversion period. Any company that goes into such an extensive program should have the advantage of past experience. If it is not present in the company, it should be procured from an outside source. The best source of free advice is from nearby companies which have men of experience and capability. In most cases these companies are glad to help, because in the interexchange of calls, the better will be the service of the company giving out the information. State and national associations are sources of good information. Careful following of your trade magazines is another. The local officials of the Bell company will be found anxious to help in almost any way they can, because they know that the better service you give, the more toll service they will have into your town. There is no substitute for *experience,* and it can be said within limits that it is cheap at any price.

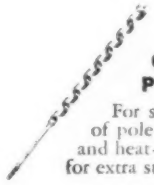
The Southland had Minor Corman, a telephone man since 1905—with experience in practically every branch of the telephone industry, from the operation of a switchboard to the management of a large Independent company, and from installing central office equipment to presenting rate cases before regulatory commissions.

The second ingredient, *adequate records,* also has proved itself beyond all doubt. Adequate records are not, and should never be, an end in themselves; they are the means, however, to several important ends. It is difficult, if not impossible, to plan where you are going if you do not know where you are. It has been mentioned that the earnings record of the Southland was sufficient to invite new capital. But if the company could not have presented figures in which the lending institution could have confidence, how could the institution have known whether the company was sound or not—whether it had assets of a certain value or not, whether it could, with the money, accomplish that which was proposed? Likewise, in the matter of rates, how, without adequate records, could a company know that it did not need an increase in rates? Or, in the opposite light, how could it know that it was not earning a proper amount and that

Push pipe under ground at rate of two feet a minute with Hydraulic Pipe Pusher

With a GREENLEE Pusher and Power Pump you can *push pipe* through the ground *easily, quickly*—under streets, walks, railways, lawns, flooring and other obstacles. Eliminates extensive ditching as just a short trench accommodates the Pusher . . . no tearing up of pavement, floors, lawns . . . eliminates back-filling, tamping, tunneling, repaving. Cuts job time to a fraction!

Other timesaving GREENLEE tools for telephone work



CAR BITS FOR POLE WORK
For smooth, fast boring of pole holes. Tough alloy and heat-treated throughout for extra strength.

BELL HANGERS' DRILLS
Fast working "Feeler Bit" type with wire-pulling hole near point. High-grade alloy steel. Heat treated.

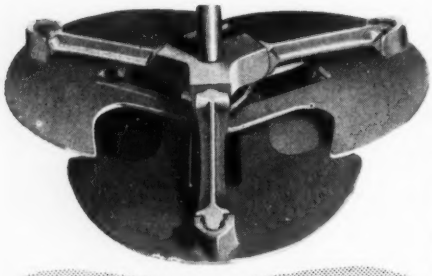
ELECTRICIANS' AUGER BITS
Fast, smooth boring. Of special design for electrical installation work. Precisely ground twists for fast chip clearance.

EXPANSIVE BITS
With wide, open throat for fast chip clearance. Bore holes ½" to 4". In two types: Plain and Setfast.

TOOLS FOR CRAFTSMEN
GREENLEE

Send for complete information now on GREENLEE timesaving tools for telephone installation work. Write Greenlee Tool Co., Division of Greenlee Bros. & Co., 2069 Columbia Ave., Rockford, Illinois.

EXTRA HOLDING POWER
QUICK INSTALLATION
TOUGH FOR LONG LIFE

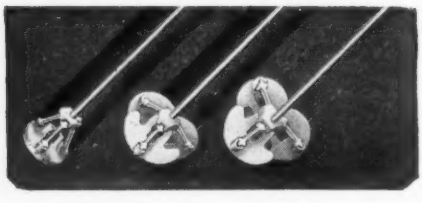


EVERSTICK ANCHORS

The preferred anchor of engineers and crews alike for permanent construction and maintenance work. Complete line of sizes to meet every guying problem. Made of tough, rust resistant malleable iron.

Special nut housing locks anchor firmly on rod and prevents rod from slipping through anchor.

QUICK INSTALLATION



Everstick plates are so designed to expand easily and quickly into undisturbed earth. The wide coverage of expanded anchor assures great holding power in any kind of soil. Write for bulletin.

EVERSTICK ANCHOR CO.
FAIRFIELD, IOWA

it did need a rate increase? And how could it have convinced any regulatory commission that it needed a rate increase, without the records to back itself up? Furthermore, with adequate, up-to-date records the job of management is vastly easier. The net results of certain lines of action show up rather quickly in the profit and loss statement. With good past records, the cost of future additions and replacements can be more closely calculated. The records should be designed to give information that is needed and useful —not just to look impressive on a piece of paper. The job of records is to serve, not to be served.

A full discussion of adequate records has been made time and time again; the point here merely is—the Southland found them to be of an indispensable nature.

The third ingredient, *sound financing*, ties in very closely with the first two, and is to a large extent, dependent on them. The Southland financed itself, with additional investments by the partners from time to time, and by small short term bank notes, from 1943 until 1947 when the building had to be completed, and the central office equipment and telephones had to be paid for. It then arranged a bank loan of sufficient size to carry the first five steps of the plan through to completion, at 4½ per cent interest, payable in equal monthly installments over a 10-year period.

Three points in the above paragraph are worthy of note. *First*, additional investments by the partners or stockholders is the best method of financing, plus the retaining in the company of its net earnings. It goes without saying that if an owner is not willing to invest heavily in his own enterprise, others will be hesitant about lending him their money. *Second*, when a company gets beyond the range of notes that can easily be paid off within a year, it had best jump to comparatively long term notes (not less than 10 years) that are payable in equal monthly installments, or a similar arrangement. *Third*, under no circumstances get placed so that the way to additional borrowing is irrevocably blocked. Getting too little money, with no chance for more, is little short of slow suicide in a growing company. For example, if the Southland were now blocked, after the completion of the first five steps of its program, its earnings record would be much worse than had been planned for, and counted on. And, if it had to stop now for lack of money, some 500 to 600 customers would be left unserved, with dire results to the public relations of the company.

It is well not to forget that when service is improved, more service is demanded by the customer, which is a good thing only if you are able to give him that extra service.

Expansion in these days of high prices is costly. Get the full information on how much money you will need and do not allow yourself to get blocked. Here again, we have touched upon a subject worthy of the hundreds of excellent articles that have already been published, and the point again has been made merely to show how this subject tied into the activities of the Southland company.

There are other subjects that might be dealt with extensively. Only two will be mentioned here. The Southland management has considered it important to take active part in the affairs of the community. Between the writer and his son, they have served two terms as president of the local Lions Club, one term as president of the chamber of commerce, served as the chairman of the city water board, directed local talent minstrel shows, and served on innumerable committees of various city and civic groups. Such work is some of the best public relations effort that can be made.

Careful selection of employes has placed the company in a position where it has never been without applicants for the position of operator. As indicated, wages have been consistently increased and the policy will be to continue to increase them as much as possible. The new building, equipment, and working surroundings have been added inducements to apply for work with the company. Many subscribers think in terms of the employes when they think of a company—which is a good thing if the employes are worthy and capable. These and other subjects are all-important parts of the general picture.

Probably the one accomplishment that can be pointed to by the company as best evidencing the good results of the Southland's program is the change on the part of the public. By 1942, public relations had degenerated, primarily through the lack of an adequate development program, to public apathy. Five and one-half years later, the company is considered by the public to be an integral, important, respected and progressive part of the community. Could there be a better indorsement of its program than that?

V V

Converts to Dial

The Carolina Telephone & Telegraph Co. has converted its Robersonville, N. C., exchange to dial operation Sept. 15, removing the last magneto exchange in the company's system.

"Monty" Pope Retires From AT&T

H. M. Pope has retired as commercial problems engineer of the American Telephone & Telegraph Co., according to an announcement by the company.

Mr. Pope, for many years, has devoted most of his time to Bell System activities as they pertain to Independent telephone companies and he has gained a wide acquaintanceship and circle of friends in the Independent industry.

The National Telephone Co. in England was where Mr. Pope got his start in the telephone business after attending St. Johns College. Coming to the United States in 1909, he became associated with the New York and New Jersey Bell Telephone companies as a plant engineering assistant. He then was with the New York company for 12 years until he was transferred to the AT&T in 1923. He was appointed to his present position in 1933.

Mr. Pope served in the U. S. Army Signal Corps during World War I. After retirement he plans to live in Washington, D. C.

V V

Mid-West Television Network Opened

Network television arrived in the mid-west on Sept. 20, the Illinois Bell Telephone Co. announced recently as engineers completed tests which cleared the way for video service between St. Louis, Chicago, Milwaukee, Toledo, Detroit, Cleveland and Buffalo.

By the end of the year, this midwestern network will be linked to the east coast network, making it possible for one program to be broadcast by television stations connected to the hookup from the Atlantic Coast to the Mississippi River.

Service is provided in both directions between St. Louis, Chicago, Toledo, Detroit and Cleveland, and branches carry programs to Buffalo and Milwaukee. The television channels are furnished by coaxial cables, with the exception of the Toledo-Detroit and Chicago-Milwaukee links where radio relay systems are employed.

Coaxial cables and radio relay systems are built primarily to meet the needs of long distance telephone service. But provision is made at the same time for video channels and other communication services.

Work on the coaxial cables in the midwestern network—part of the large postwar construction program of the Bell System—was begun in May, 1946, with the laying of the Buffalo-Cleveland coaxial cable. The Terre Haute-

THE NEW **JAQUES**

Model 10 TRENCHER

Spells **ECONOMY** *in trench digging*

Jaques has now added a new, low-cost *trencher* to its line of time and labor saving machines . . . Trenching at speeds from 6 inches to 30 inches per minute and to *depths of 3 feet*, this little giant presents economy of operation that means 'money in the bank' . . . and quickly! The 'little' man, the individual contractor, can cope with large organizations when he uses the Jaques Model 10 Trencher, for the initial investment is *small* and the day after day profits are large!

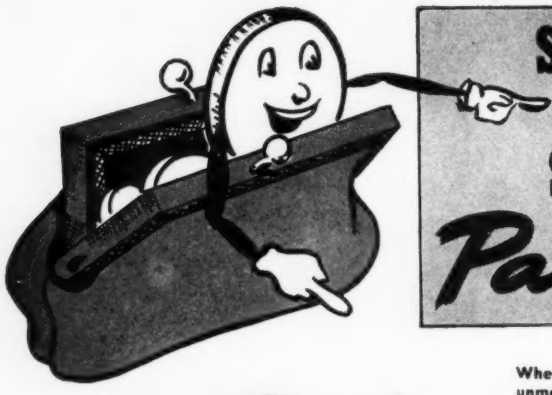
Jaques 'Model 10' trenches at truly *great* economy . . . not just your operational costs (your gas and oil consumption) but your *repair* and *upkeep* costs as well, are lower, providing greater economy *each minute* you operate! Make arrangements for a demonstration now. Seeing is believing! ! !

BUCKET SPEED: 165 inches per minute.
TRENCHING SPEED: 6 inches per minute to 30 inches per minute, depending on soil conditions. Two feet per minute in average soil.

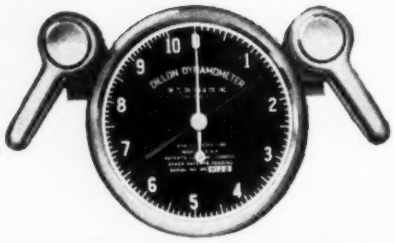
SIZE OF TRENCH: 4 inches wide, 3 feet deep.
TRENCH FILL-IN: Angle type dozer fills trench at tractor speeds.
TRACTOR SPEEDS: From 2¾ to 7-1/3 miles per hour. One reverse speed at 2 miles per hour.

JAQUES POWER SAW CO.

DENISON TEXAS U. S. A.



SCIENTIFIC WIRE STRINGING *Paid Off*



When temperatures drop, wires tighten up unmercifully. This was demonstrated repeatedly last winter when sub-zero weather caused wires to snap, and too-tight wires combined with heavy sleet and ice to bring many poles to the ground.

Some spans stayed up beautifully in the worst ice, sleet and wind of the season. They were the wires strung with Dillon Dynamometers to exact tensions recommended by the wire manufacturers. They were the ones where the relatively small cost of scientific wire stringing paid off.

As insurance against the next bad storms, check all guy and conductor tensions with Dillon Dynamometers. It isn't necessary to cut the wire. Above all, string all new wires the safe, scientific way.

The Dillon Dynamometer was created expressly for wire stringing. It's light in weight, compact and easy to use. Can be worked with a rope block, chain hoist or truck winch. It's dead accurate.

Dillon DYNAMOMETER

TO GET YOUR *FREE* COPY
of the "Rules of Successful Wire Pre-Stretching and Stringing," written by experienced linemen, drop us a note today.

W. C. Dillon & Co., Inc.
5410-X WEST HARRISON STREET — CHICAGO 44, ILLINOIS

Guard Against Costly Power Failures with

ONAN STANDBY ELECTRIC PLANTS

Write for Catalog

Telephone service is vital when disaster strikes. Prevent breakdown of telephone systems due to power failure by installing an Onan Electric Plant. Plant starts automatically when power fails, provides current for the duration of the emergency, stops automatically when power is restored. Many models and sizes from 350 to 35,000 watts.

D. W. ONAN & SONS INC.
5406 Poyalston Ave. • Minneapolis 5, Minn.

Onan PRODUCTS

ONAN STANDBY POWER

St. Louis coaxial cable project was started before the war but its completion was delayed until 1945.

Work on the Chicago-Terre H. and Cleveland-Toledo sections wa gun in February, 1947. In Augu that year, the Chicago-Toledo s was started. All cable segment been in use for long distance te service for some months, whil tional channels were being e for television transmission.

Construction of the radio rel tems in the network was begun d the spring of this year. Three inte mediate towers were built betwee Chicago and Milwaukee, and two b Toledo and Detroit. Terminal ment was installed at the Mic Bell Telephone Co. building in De roit, the Ohio Bell Telephone Co. building in Toledo, the Illinois Bell Tele hone Co. long distance center in Ch and at the Wisconsin Telephone C building in Milwaukee.

The midwestern and eastern net will be linked by a coa ial cabl be tween Cleveland and Phi delphia The Bell System will then h e a to some 5,000 miles of v o chan linking 14 major cities.

The eastern television n work now i operation includes Boston New Yo Philadelphia, Baltimore, Wash t and Richmond. The New York-Bost route is radio relay; the emainder is coaxial cable.

Coaxial cable usually contains ei coaxial tubes, each three-eighths of an inch in diameter and made of copper Running through the center of eac tube is a copper wire, a little thicker than a pencil lead, which is held place by insulating discs spaced abo an inch apart. One pair of coax tubes is capable of handling 600 multaneous telephone conversations two television programs. The cable contains a number of ordinary conductors for control of the cat complex operating equipment and m also contain others for added ser along the cable routes.

Radio relay is used on the midw ern network between Toledo and troit and between Chicago and M waukee. The relay system makes of microwaves of a frequency of proximately 4,000 megacycles. L light waves, microwaves do not fol the earth's curvature but travel straight lines. Relay stations, the fore, must be placed so that the no visual obstruction between Special apparatus in the stations be the microwaves to adjacent sta the route much as a searchlight concentrates light waves. The rad relay system has been in use betwe N York and Boston since November, 194

ndependent
oneers

luded from page 22)

'GN, last July. In August they ird prize on the "Knickerbocker presented by television station).

conjunction with the USITA con-vention, the Independent Telephone Pio-ne" Association will have its head-ers in Room 536-A and Pioneers register there instead of on the sec d floor of the Stevens Hotel as here ofore.

The association will hold a "Hospi-talit Hour" from 4 o'clock to 5 o'clock ay afternoon, October 11 in Room 36-A. All Pioneers are invited and to attend the "Hospitality Hour" a visit their Association headquar-ters.

V V

W. H. Dau endiek Dies in Lubbec e, Germany

W. H. D. hendiek, 80, of West Bend, va died ept. 18 in Lubbecke, Ger-ny wher he had gone to arrange the transfe of 20 to 25 displaced per-sons to this country (TELEPHONY, Aug. p. 38).

M. Daubendiek, a pioneer of Inde-pende t telephony in Iowa and Ne-raska for more than 50 years, was born in Westfalen, Germany. He came the United States in 1886 and rted his own telephone business at Witt, Neb. in 1889, later transfer-g to Iowa in 1916 where he formed e West Iowa Telephone Co.

V V

ws Hidden Earphone Pass School Test

The ancient scholar's art of cribbing give a modern twist by a Nurem-g high school student, reports the man newspaper, Der Spiegel.

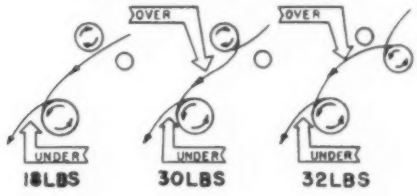
During a graduation test, the youth ted off a flawless translation of a cult Latin test. Then somebody ped and the proctors found a home-e radio set which the student had alled under his seat. In a bandaged he was holding a miniature ear-. The transmission was done by end in a neighboring house.

board of examiners gravely con-idered the case and then passed the uth yway—on account of his tech-al ficiency.

For Your Cable Spinning Jobs

ALUMINUM
Spinning Wire

ALUMINUM WIRE THREADING TENSION FOR NEALE MODEL "D" SPINNER



ONE-THIRD THE WEIGHT OF STEEL WITH MORE RESISTANCE TO CORROSION.

AVAILABLE FOR IMMEDIATE SHIPMENT

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CABLE SPINNING EQUIPMENT COMPANY

TOPEKA, KANSAS

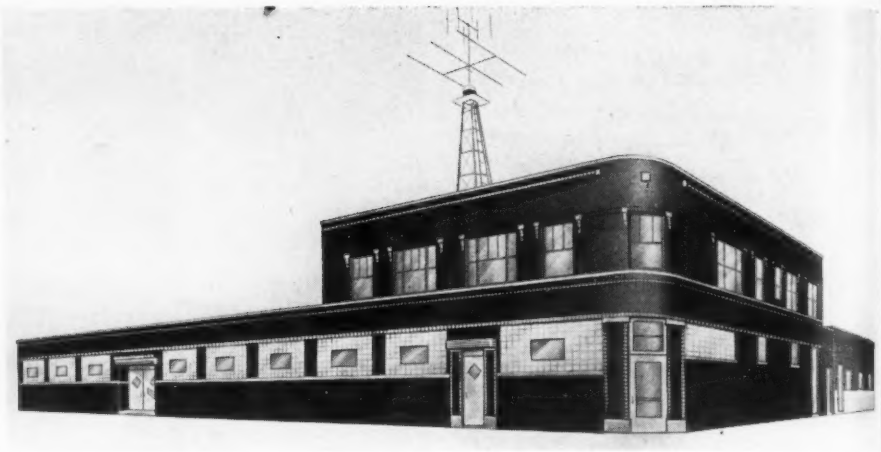
Pull Poles FASTER
—without digging

Model 329 with chain pulls any size pole.

Simplex Pole Jacks

Pole pulling, straightening or moving is fast, safe and easy with the Simplex 329. An "H" beam sub-base insures a firm foundation on any ground. Equipped with 8′ welded steel chain and 5′ steel lever bar. No digging needed, regardless of size of pole or depth in ground; operated by only one or two men. Complete specifications on this and other Simplex Utility Jacks available in Bulletin U48.

TEMPLETON, KENLY & CO.
1044 South Central Avenue
Chicago 44, Illinois



Cook Laboratories To Expand

Cook Research Laboratories, a division of Cook Electric Co., Chicago, Ill., are in the process of expansion by the addition of a one-story structure to the present quarters. The accompanying artist's drawing illustrates how the new building will appear when completed.

The entire upper floor shown in the illustration will be devoted to engineering and drafting. Most of the lower floor directly under the upper story will be used as a model shop. A stockroom and a small room housing physical and high voltage testing equipment are at the rear of the model shop, while a third sub-division at the front of the model section will serve as an experimental test department for heavy equipment. The new addition, shown at the left of the two-story structure, will house an electronics test and development section with business offices along the front.

Cook Research Laboratories are engaged in physical, electronic, meteorological and nuclear research for the U. S. Government and private industry. Dr. J. Robert Downing is director, Dr. John C. Bellamy, associate director, and G. Ross Stewart, business manager.

LINEN LACING TWINE

Once your employees have used Armature Brand Linen Lacing twine they will accept no substitute. The Linen fibre insures lasting qualities and its added strength keeps costly breaks at a minimum. Manufactured in various sizes to meet your exacting requirements.

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V V

T. C. Thompson Retires From Automatic Electric

After 45 years of continuous service with Automatic Electric Co. and its affiliated companies, T. C. Thompson, well known in Independent telephone circles as a manufacturing and sales executive, recently retired at the age of 65. For several years prior to his retirement he had served as consultant for the Automatic Electric sales organization.

Mr. Thompson's long and active career, which led him through a succession of widely varying positions to important executive posts in the manufacturing and sales organizations of the Automatic Electric group, has had a profound influence in the commercial development of automatic telephony, and his services were much in demand by telephone operating men who learned to look to him for guidance in the adaptation of automatic equipment to their requirements.

Entering the employ of Automatic Electric Co. as a student in 1903, Mr. Thompson spent two or three years in the factory testing and assembling switches, and followed this with several years in the field working on important automatic installations. Returning to the factory in 1910, he was

T. C. THOMPSON

placed in charge of switch testing and assembly.

Soon afterwards, with the formation of the company's operating department, he placed his experience at the disposal of operating companies, visiting many exchanges both here and abroad. As a result of this first hand contact with practical operating problems, he was called back to Chicago to assist in the development of improved methods of manufacturing and testing.

With this program successfully launched, he joined in 1915 the sales organization and was assigned to the New York office of the company to help in the development of private exchange sales. Shortly afterwards he was appointed eastern manager. During the next several years he was in close contact with the Independent operating men in the east, with whom he built up a lasting and favorable acquaintance.

In 1920, the factory again claimed him and he returned to Chicago to become factory manager, and a year later was appointed general superintendent, with complete supervision over manufacturing, equipment engineering, and the installation and operating departments. In 1929, he was elected director and vice president of Automatic Electric Co., and shortly afterwards became president of the domestic sales organization.

Although his active career in the interests of automatic telephony has been brought to a close, Mr. Thompson will long be remembered by his many friends in the operating field, as well as by his co-workers in the Automatic Electric group, by all of whom he long had been regarded as valued friend and associate.

LONG-BELL P-O-L-E-S

FOR

Southern Yellow Pine and Douglas Fir Poles
Pressure Treated with Proven Preservatives

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THE LONG-BELL LUMBER COMPANY
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FOR BIG USERS
. . . the
BIG 10-ROLL CAN of
GOLD SEAL TAPE

● Off the market during the war, this handy 5 pound can of Gold Seal Tape is back again . . . the best buy for regular users. Every roll is doubly protected for factory freshness.

Whatever way you buy tape, you'll find Gold Seal always just right in "tack"; clean handling; non-raveling; non-peeling. Try it. Jenkins Bros. (Rubber Div.) 80 White Street, New York 13.

Jenkins Bros. also make Diamond Seal Friction and Rubber Tapes which meet ASTM and Federal Specifications.

JENKINS Gold Seal Tape FRICTION-RUBBER

MADE BY JENKINS BROS. . . . MAKERS OF FAMOUS JENKINS VALVES

BE SEEING YOU . . .

Here's hoping the National Telephone Convention of 1948 will hit a new high in pleasure and profit for all who attend. You will come, we are well aware, for serious purposes . . . with maybe a few social obligations to take care of when time permits.

If your Convention calendar is not too full, and if you are disposed to take a look at a printing plant, come on down to Donnelley's. If you think of it, give us a ring first. Anyway, come ahead. You may be very sure we shall be delighted to see you.

The Lakeside Press

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ALPHADUCT WIRES

FOR *all* TELEPHONE REQUIREMENTS

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Weatherproof Braided Drop and Bridle

Interior - Tree - Ground - Switchboard - Pothead - Cable Terminal - Instrument

Manufactured and Tested to Rigid Specifications

ALPHADUCT WIRE & CABLE CO.

Milltown, New Jersey **Telephone: Milltown 8-0030**

Rochester Bank Installs First XY and PABX

The first Stromberg-Carlson XY dial system PABX in the United States has been installed by the Rochester (N. Y.) Telephone Corp. in the main office of the Lincoln-Rochester Trust Co. Lincoln-Rochester, one of the largest banks in upstate New York, is housed in a modern 14-story building.

CLAYTON GILBERT, left, of Lincoln-Rochester Trust Co., and JOSEPH A. REIF, of the Rochester Telephone Corp., check operation of the new Stromberg-Carlson XY system PABX.

The new XY dial switchboard provides communication facilities within the bank, to associated branches throughout the city and county, and to regular city exchanges. It provides an ultimate of 300 extensions on a fully dial basis and has facilities for completion of calls to the city exchanges either through an attendant or by direct dial.

Incoming city calls are handled through a two-position attendant's cabinet with a full jack multiple of all extensions. Dial code calls and paging facilities also are incorporated in the XY switchboard.

Night facilities provide for extensions to be connected to city trunks for calls after the bank has closed and for receiving calls made to the extensions' night numbers. Calls received over the regular bank telephone number may be intercepted by the night watchman from any available telephone.

V V

Graybar Names Manager

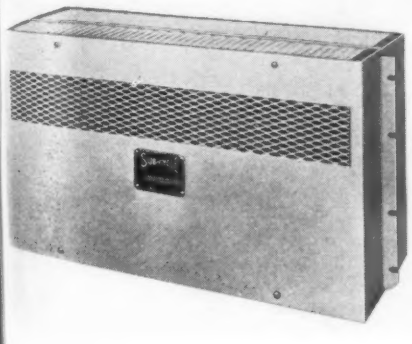
According to an announcement made Sept. 10 by J. A. Mayer, Atlantic district manager for Graybar Electric Co., F. F. Jaspersen has been appointed Washington manager. Mr. Jaspersen has completed 15 years of service with the company, starting as warehouse selector in Philadelphia in 1933. He suc-

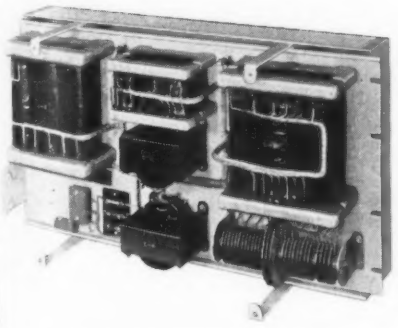
cessively became service clerk, salesman, manager of outside and inside construction departments and now becomes branch manager in the nation's capital.

V V

Kellogg Named Distributor For Lorain K-5 Sub-Cycle

Kellogg Switchboard & Supply Co., Chicago, Ill., has been appointed distributor for the new Lorain K-5 Sub-Cycle Ringing Converter for selective ringing on party lines, according to a joint announcement by C. P. Stocker, president, Lorain Products Corp., Lorain, Ohio, and F. M. Parsons, Kellogg sales manager.





The new Lorain K-5 Sub-Cycle with and without cabinet.

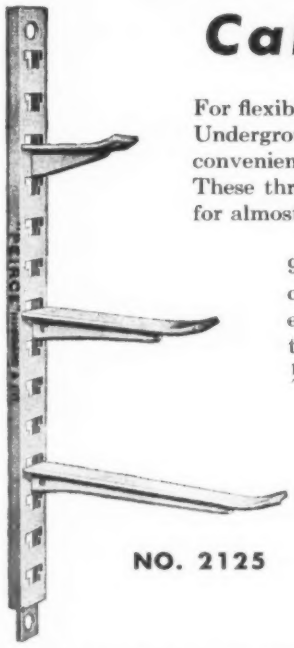
The K-5 Sub-Cycle was designed to meet the demand for a moderately priced static frequency generator to give five frequencies similar to the harmonic and synchromonic system. The K-5 generator supplies 20, 30, 40, 50 and 60 cycles. The unit is designed primarily for installations where a manual office is being replaced by a new system such as an automatic type of equipment. The K-5 Sub-Cycle does not lend itself readily to existing plant installations equipped with subscribers' bells for the harmonic and synchromonic frequencies, the Lorain company states.

The new unit operates without moving parts. There is no starting relay or other type of moving element in the entire equipment. The self-starting feature of the K-5 makes the unit adaptable for start-stop operation. However,

JOHN LINEMAN OFFERS..

PEIRCE

Underground Cable Racks



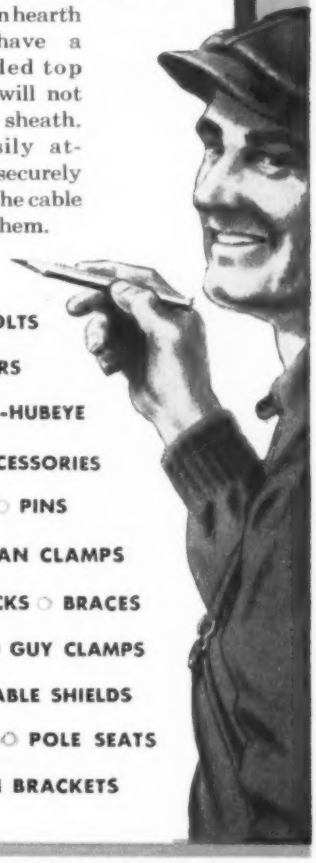
NO. 2125

For flexibility and ease of installation, Peirce Underground Cable Racks are made in three convenient lengths: 15, 24, and 30 inches. These three basic sections may be combined for almost any desired length.

Sections are made from 1½ by 9/16 by 3/16-inch open hearth steel channel and will support the heaviest cables. Racks are fastened to the manhole walls by means of a ½ by 4-inch Peirce Expansion Bolt.

Hooks adaptable for insulators and cut from open hearth "T" sections, have a smoothly rounded top surface which will not injure the cable sheath. Hooks are easily attached and lock securely when weight of the cable is placed upon them.

A. T. & T. Co. Standard



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HUBBARD AND COMPANY
ESTABLISHED 1843
PITTSBURGH CHICAGO
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Operates ON ANY DERRICK TRUCK

- Adjustable for clean holes to 8 ft. deep
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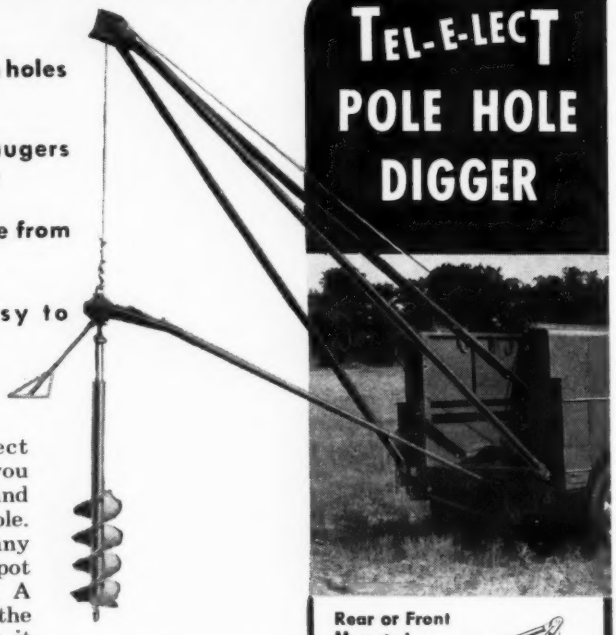
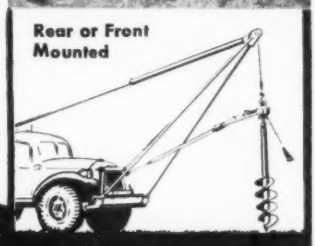


TEL-E-LECT POLE HOLE DIGGER

WITH the Tel-E-Lect Pole Hole Digger, you use the same truck and crew that sets the pole. You can drill a hole any place that you can spot the pole derrick. A single bolt attaches the digger to the truck; it works suspended from the derrick. Powered by the truck motor through a power take-off shaft, Tel-E-Lect is raised and lowered by the winch line. Fits the budget of even the smallest utility, and quickly pays for itself. *Ask for circular.*



TEL-E-LECT PRODUCTS, Inc.

9607 MINNETONKA BOULEVARD, MINNEAPOLIS 16, MINNESOTA

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$500,000

Illinois Consolidated Telephone Company

First Mortgage 3¼% Bonds, Series C

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CENTRAL REPUBLIC COMPANY

(Incorporated)

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NEW YORK CLEVELAND DENVER DES MOINES

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the power consumption on the K-5 is low and, therefore, may be operated continuously without excessive power costs.

The company points out that the one dominant feature of the K-5 static ringing machine is that the frequency is absolutely stable. The frequency is locked to the 60-cycle power source and cannot vary unless the frequency of the power source varies. Wherever the power frequency is suitable for operation of electric clocks, it will be found entirely suitable for operation of the Model K-5. The normal variation of the 60-cycle supply does not approach ± ½ cycle, the company states.

Previous to the design of the K-5, difficulty was encountered in stabilizing the ringing frequency with respect to variation in input voltage, variation in load, and variation in power factor of the load, according to the company. In the K-5 Sub-Cycle all these disadvantages have been overcome and not only has the output frequency been stabilized with respect to these variations, but the output voltage has been stabilized and good regulation is obtained on all frequencies, it is pointed out.

The K-5 was designed to eliminate objectionable harmonics and thereby eliminate the possibility of cross-ring. Laboratory tests indicate that the cross-ring on the K-5 is no worse than the cross-ring experienced with the regular synchromonic system of ringing, according to the company.

The various frequencies generated by the K-5 are devoid of harmonics and are not capable of supplying reverting tone. Therefore, two terminals are provided on the Model K-5 to supply tone which can be used for any frequency, the company reports.

The K-5 weighs approximately 350 pounds. It is made to mount on 34-in. relay rack. Rack space required is 33½ ins. x 16⅞ ins., which fits the Kellogg relaymatic power frame. Where this type of frame is not available, a floor mounting frame can be provided at a slight additional cost, the company states.

V V

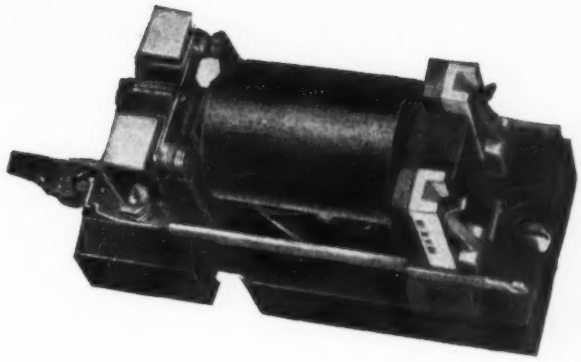
Kaufman, Tex., Exchange Converted to Dial

The Gulf States Telephone Co., Tyler, Tex., on Sept. 11 cut over its Kaufman, Tex., exchange to automatic operation. The automatic equipment is housed in a new air conditioned building, plans for which were drawn by Morris Burton, assistant general manager of the company, and son of the vice president and general manager, Oscar Burton.

The installation and cut-over of the new equipment was supervised by S. J. Neel, assistant to the general manager.

FAHNESTOCK ELECTRIC COMPANY, INC.

Type 3-A Arrester Relay



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COLUMBUS 6, OHIO

Are you troubled with heavy induction from Rural Electrification Lines strung parallel or crossing your rural or toll lines?

While the No. 3-A Arrestor Relay does not eliminate humming and other noises, it will eliminate grounded arrestors due to this induction; it is standard equipment on all major telephone and telegraph systems.

Write for circular regarding the 3-A arrestor relay.

YOUR OVER THE FLOOR

WIRING PROBLEM HAS A READY SOLUTION IN "FLEXIDUCT"

The Only Floor Duct That Gives Complete and Permanent Protection Against All Hazards to Wires Over Floors.

CHEAPER IN COST
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IT'S THE VERSATILE FLOOR DUCT — WORKS ANY PLACE UNDER ANY CONDITION

ASK YOUR JOBBER
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WINDERS & GEIST INC.

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ATTRACTIVE PROPOSITION TO JOBBERS

WE'RE BRANCHING OUT!

WE'RE branching out! No, not necessarily in size, but in a way that means so much to our customers—*expansion in our line of quality telephone supplies and in our facilities to give still better delivery service.*

Quality products, individual attention to orders, prompt delivery have combined to bring us the enviable position we occupy in our field.

Speed up your construction and expansion programs by ordering your supplies from us.

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IT'S GOV'T SURPLUS!
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IT'S in the Original Cases

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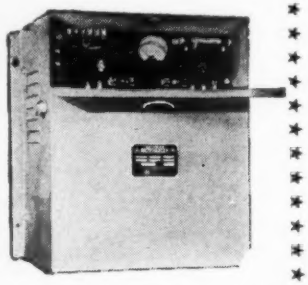
Practically 1/5 of its original value



Supply current at a constant voltage and supplies current to a storage battery, providing an automatic AC-DC power system. Has no moving or expendable parts—therefore no frequent adjustment or maintenance is necessary. The life of the battery increases as much as 40%. Eliminates voltage variations.

W-3155—Range of unit 11/12 cells, 22 to 24 volts @ 3 amp. Input supply source 95 to 130 volts, 60 cycles **$49.50**

W-3826—Range of unit 23/24 cells, 46 to 48 volts @ 3 amp. Input supply source 95 to 130 volts, 60 cycles **$69.50**

AUTOMATIC ELECTRIC CO., Telephone BATTERY ELIMINATOR, Type PE-11, Range 24 volt DC @ 3 amp. Input 105-125 volts, 60 cycles **$49.50**

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Mobile Service Triples Size in Second Year

Mobile telephone service has traveled a long way since its inaugural at St. Louis in June, 1946. By the end of its first 12 months, more than 1,400 automobiles, trucks, buses, taxis, switch engines and boats were placing and receiving about 10,000 telephone calls a week in 39 American cities and towns.

Since then, business has just about tripled. Today nearly 5,000 vehicles of all types, including fast passenger trains and harbor craft, are handling 30,000 calls a week through mobile systems established in nearly 100 different cities and towns. In addition, service is now scheduled for about 50 other localities.

V V

Tons of Paper Used Each Year For Telephone Directories

Imagine a freight train 2,550 cars long, each car—except the engine and caboose—compactly loaded with paper and you will have some idea of the amount of paper used by the Bell System each year. It amounts to over 76,000 tons.

The lion's share of the annual paper order, about 65,000 tons, is needed for telephone directories alone. Directory needs have doubled in the last two-and-a-half years. Office stationery accounts for another 7,800 and publications 500. Paper and pulp used in the manufacture of Western Electric's products for the Bell System requires an additional 13,500 tons.

Add to this the amount of paper used by the Independent companies also and it will show that the telephone industry is one of the paper industry's best friends.

POLES

B. J. Carney & Co., 100 N. 7th St., Minneapolis, Minn.—Western red cedar poles. Pentrex Butt Treated or Plain.

Cascade Pole Co., P.O. Box 743, Tacoma, Wash. — Creosoted Douglas Fir and Cedar Poles.

C. M. Christiansen Co., Phelps, Wis.—Northern White Cedar Poles, plain or butt treated.

Forest Products Treating Co., 824 Pittock Block, Portland, Ore.—Douglas Fir and Lodgepole Pine Poles Pressure Treated at Laramie, Wyo., and The Dalles, Ore.

International Creosoting and Construction Co., Galveston, Texas.—Creosoted Southern Yellow Pine Poles. Plants Beaumont and Texarkana, Texas.

T. M. Partridge Lumber Co., Minneapolis, Minn.—Northern White—Western Red Cedar Poles, Plain or butt-treated.

Poles, Incorporated, Spokane, Wash. — Western Larch, Cedar, Pine, Fir, Plain, Butt Treated, Full Length Treated. All poles machine peeled. Send for pamphlet.

Wood Products Co., American Bank Bldg., Portland, Ore.—Creosoted Douglas Fir, Larch, and Lodgepole Pine Poles.

LINEMEN'S SURPLUS EQUIPMENT
ORDERS OVER $100 FREIGHT PREPAID

3,000 Leather Tool Belts.....$3.00 ea.
3,000 Leather Safety Straps.....$3.00 ea.
3,000 Buckingham Pole Climbers (Less Straps and Pads.....$2.00 pr.
5,000 #LC-25A Linemen's Lag Wrenches (Equal to Klein's #3146).....$1.25 ea.
3,000 Klein #132-15 Splicing Clamps....$3.25 ea.

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Cedar Poles
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Northern White and Western Red Cedar Poles—Plain or Butt-Treated

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Creosoted Pine Poles
Crossarms . . Conduit
PLANTS AND OFFICES
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